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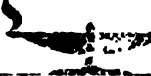
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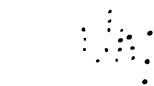


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AN INQUIRY
INTO THE
THEORIES OF HISTORY
WITH SPECIAL REFERENCE TO THE
PRINCIPLES
OF
THE POSITIVE PHILOSOPHY.



T. A. C.

LONDON:
W. IL. ALLEN AND CO., 13, WATERLOO PLACE.
1862.

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P R E F A C E.

MUCH has been written about what has been sometimes called the philosophy, and at other times the science, of history; sometimes the philosophy, and at other times the history, of society or of civilization—phrases too ambitious for any amount of knowledge yet acquired respecting the sequence of human events, or for any system of thought hitherto elaborated respecting the principles by which that sequence is governed. Much more remains to be done before any such designations can be legitimately employed; and the present volume is a contribution towards the consideration of one only of the questions which lie at the foundation of all society and of all history and of the science and philosophy of both. No pretence is made to teach any new truths. The utmost that is attempted is to disembarass old truths from injurious

error, to defend them against new assaults, and to present them in new and instructive relations.

M. Auguste Comte's positivism has been kept steadily in view, because it is believed to have powerfully influenced, directly or indirectly, both philosophic thought and popular belief.

The Appendix discusses the doctrine affirmed by some and denied by others of the resemblance of the cause to the effect, a doctrine intimately connected with the historical theory of will and with the highest forms of theistic belief, but hitherto, as far as is known, only summarily and slightly treated.

If circumstances permit, the present volume will be followed by two others, of which one will be devoted to the investigation of the Elements and Ideas, and the other to that of the Law, of history.

London, June, 1862.

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HISTORY.

THE history of human events is an object of profound and permanent concern to every human being. Presenting itself in the most varied forms and with the most varied attractions, it is adapted to awaken and fix the attention of minds the most differently constituted and trained. It is the record of all that is preserved of whatever has been thought or said or done. In its details no one finds any thing that is wholly alien to himself: every one finds much with which in act or in imagination he has a close affinity. It describes what has been; it gradually appropriates what is; and it helps to foretell what will be.

It may be the history of personages distinguished for their virtues or for their vices and for the influence, good or bad, which they have exerted upon mankind; or the history of great families and powerful dynasties that have wielded the forces and directed the destinies of a people; or the history of important events and eras that stand out in bold relief from the usual even level of human affairs; or the history of mighty nations whose careers constitute the landmarks of the race; or

the history of diverse civilizations that form the distinctive features of distant ages or of the same age of the world.

It may be the history of sciences that collect and generalize facts; or the history of philosophies that analyze and systematize thought; or the history of religions that prescribe beliefs and sway conduct.

If in all of these forms it should have failed to impress the mind, there are yet others in which it addresses the immediate interests and the intimate feelings of every individual, as the history of the age, of the people, and of the country to which he himself belongs; and still more as the history of his own mind and character. Properly studied, history should enable him to understand and estimate aright the course of his own inner life, the life of the domestic circle in which he is placed, the social life around him, and the general life of humanity.

In order to study history with profit, there are certain principles which should be clearly apprehended and fully accepted, relating to the Theory, the Elements, the Ideas, and the Law of history.

First: What is the true Theory of history? Is it the theory of Chance? Or the theory of Law? Or the theory of Will?

Second: Assuming the theory of will which expresses itself by law and excludes chance, what are the essential Elements of which history is composed? Is Divine Will one of those elements? Is Human Will another? Are there any Involuntary elements that enter into history?

Third: Assuming the reality of those elements, and

distinguishing them from the ideas of history as the materials of a building are distinguishable from the plan of the architect, what are the fundamental Ideas that constitute history? Is Order one of those ideas? And what then are the statical conditions of history? Is Progress another of those ideas? And what then are the dynamical conditions of history? Is Unity another of those ideas? And what then are the conditions of unity securing order in progress and progress in order?

Fourth: What is the positive Law of history? Is it a physical law, or an intellectual law, or a moral law? Or is it a law combining and expressing physical, intellectual, and moral conditions, and determining the evolution of events in a physical, intellectual, and moral order?

These are the questions which it is proposed to answer and the principles which it is hoped to establish in the following pages and in subsequent volumes. By their establishment it is believed that a solid foundation will be laid for the intelligent study of all history, general and particular, dynastic and personal, scientific, philosophic, and religious.

THE THEORIES OF HISTORY.



CHAPTER I.

STATEMENT AND EXAMINATION OF THE PRINCIPAL THEORIES.

IN reflecting on the events of Time Past, in contemplating the events of Time Present, and in anticipating the events of Time Future, every one frames a theory to account for the order or disorder in which they have occurred, in which they do occur, and in which they are expected to occur. Events—do they occur in order or in disorder? In strict interdependence, or in absolute independence of each other? In any conceivable fixed sequence, or in mere juxta-position and without mutual connection? If there is no interdependence of events, then what and whence the seeming connection between them of which we sometimes obtain glimpses and even distinct perceptions? If events are interdependent, then what and whence the seeming incoherence that is frequently forced on the attention? If disorder is the rule and order the exception, what are the limits of the order that is found to exist in the midst of disorder? If order is the rule and disorder the exception, what are the limits of the disorder that is found to exist in the midst of order? Whether order or disorder is the rule,

what are the laws of that seeming order which is found to affect events in combination with seeming disorder? In what do they consist? Whence do they proceed? What are their sanctions? Are they self-originated, self-sustained, and self-enforced? Or are they the fixed and necessary results of blind and inscrutable forces? Or do they spring from, express, and fulfil a supreme will?

Such questions might be multiplied; but these are sufficient to indicate the wide scope of the inquiry. They are questions which in one form or another every one puts to himself and answers for himself; but they are put in different cases with very different degrees of mental preparation, and answered with very different degrees of clearness of perception. They are put by some with a definite conception of the problem to be solved, and answered with a definite conception of the solution at which they have arrived. They are put by others with a vague apprehension of the meaning of the problem, and answered by the tacit and arbitrary assumption of some theory by which they explain to themselves, or deny that it is possible to explain, the phenomena of life and history. Directly or indirectly, consciously or unconsciously, in thought or in words, such questions are both asked and answered. They are answered negatively or affirmatively, and the answer, whether by negation or affirmation, involves a theory. The negation, for instance, of any connection in the sequence of events, is the affirmation of disorder; the negation of the absence of any such connection is the affirmation of order; and whether an affirmation is made of incoherence or of harmony in the sequence of events, that

affirmation is the theory to which the mind conforms in its speculations on the Past, the Present, and the Future.

There are three principal theories to which men adapt their ideas of the events of history. The first is, that events happen by Chance; in mere succession as regards time, in mere contiguity as regards place, without order or design, without coherence or connection, without mutual dependence or relation. The second is, that events happen according to Law; law fixed and invariable, necessitating the most stable order; law final and absolute, the ultimate and highest conception of the human mind. The third is, that events happen according to law, fixed and invariable, necessitating the most stable order; but that that law, instead of being the ultimate and highest conception of the human mind, is the expression of a Supreme Will. These three theories, with their respective modifications in different ages and nations, apparently exhaust human speculation on this question.

What Theory affords an adequate basis on which to rest the events of history?

SECTION I.

The Theory of Chance.

THE first theory, that of Chance, in its application to history, strictly regards all events as indeterminate, having no connection with or relation to each other as causes and effects; no natural, necessary, or designed antecedence or consequence. According to this theory, in the case of any given event or series of events with known antecedents, we may suppose the antecedents to have been wholly different and contrary, and yet the event or the series of events might have been the same; or we may suppose the antecedents the same as they are known to have been, and yet the event or the series of events might have been wholly different and contrary. In like manner, in the case of any given event or series of events with known consequents, we may suppose the same event or series followed by a wholly different and contrary set of consequents; or we may suppose the same consequents to be preceded by a wholly different and contrary set of antecedents.

Thus, this theory would affirm that the French revolution of 1789 or the series of revolutions of 1789-93, 1830, 1848-51, might have been preceded by a wholly

different and contrary set of antecedents, and followed by a wholly different and contrary set of consequents, and yet those political convulsions might have occurred precisely as they did occur. Or it would affirm, that with the same antecedents those revolutions might never have occurred, and that without those revolutions the same consequents might have followed. In short, according to the theory of Chance, all events are loose, discontinuous, and independent. Every single event is isolated, not subordinated as a part to a whole, not sustaining any natural, necessary, or designed relation to other events, not influenced by that which precedes, not influencing that which follows.

It may seem that this theory is so broadly and peremptorily contradicted by reason, by observation, by experience, and by consciousness, that it needs no special notice. But it is undeniable that it has been both theoretically and practically maintained; that there are phenomena in the constitution of nature, of mind, and of society, that may be plausibly adduced in support of it; and that there are current maxims, recognized practices, established institutions, and national politics, that can be rendered intelligible to common sense and calm judgment only on the supposition of belief in its truth. Even when the opposite theory is held, that of Law, whether absolute law or divine law, its advocates appear sometimes to vacillate between that which is affirmed and that which is denied, and to lapse into an assumption of the theory of Chance, which they would be shocked verbally to admit, and which their whole system of thought tends to disprove; and, similarly, the advocates of Chance are

prone to take for granted on occasion the existence of law, which their theory and reasoning directly impugn.

The explanation of this is probably to be found in the following consideration. Each of the theories has its difficulties, and to human reason is only left the choice of that which has the fewest. System-makers, however, are not content with this choice, but feel bound to construct a theory coherent in all its parts and free from all flaw. When therefore they meet with difficulties that specially apply to their own favourite theory, and that exhibit discrepancies which affect its credibility, they, not only with seeming but with real unconsciousness, fall back upon the theory which they oppose to elucidate the anomalies of that which they defend, and adduce arguments drawn from the one to strengthen the conclusions of the other. Now, between the theory of Chance and the theory of Law, which are not only different but mutually contradictory, there can be no compromise, no reciprocity, no borrowing and lending. If the theory of Chance is true, the theory of Law must be always and everywhere false; if the theory of Law is true, the theory of Chance must be always and everywhere false. From the vagaries of Chance there can be no temporary escape into the fixity of Law; from the fixity of Law there can be no temporary escape into the vagaries of Chance; that is, both theories cannot be held at the same time and made in turn to supply each other's deficiencies. It is indispensable, therefore, to consider what can be said for the theory of Chance, and to present it in the different aspects in which it may be viewed, were it for no other reason than that a clear and distinct line may be

drawn to separate it from the adverse theory, and that the adoption or abandonment of either by consistent thinkers may be total, unreserved, and unqualified.

The theorist of Chance, then, may argue that the absence of order is disorder; that disorder is *pro tanto* the negation of law; that the negation of law is equivalent to the affirmation of Chance; and that since there are certain phenomena of nature in which it is impossible to trace the existence of order, no alternative is left to us but to admit the doctrine of Chance.

In astronomy, that branch of physical science which has attained the greatest perfection, there are many things that appear to be wholly arbitrary and incapable of being resolved into a system of law and order. Who can explain why certain portions of the immeasurable spaces around us are more thickly crowded with starry orbs than other portions, or assign the causes of the respective magnitudes, densities, and distances of those heavenly bodies? The whole, to our perceptions, is like the concourse of atoms in the sun-beam or of sands on the sea-shore, a maze without a plan, a chance assemblage of huge masses floating in the immensity of space, without connection or mutual influence.

Within the limits of the solar system we cannot explain why the number of the heavenly bodies that compose it should be what it is, neither more nor less; nor why the actual or relative magnitude, density, and distance of each should be what they are, and nothing different; nor why some of the planets should have no satellites, the earth one, and others several; nor why Saturn only should have rings; nor what purpose those

rings serve in the economy of the planet ; nor what influences govern the erratic movements of comets ; nor what has called into existence the asteroids which recent observation has multiplied. All these are ultimate facts which we can bring under no rule, which we can generalize into no law or order or system, and which, therefore, must and do appear to us without rule or law or order or system, chance-begotten and chance-guided.

The earth is inhabited by sentient and rational beings. Are there any forms of life and thought specially connected with the orbs that sparkle in the immeasurable depths of space, with the sun, with the planets, with their satellites ? If all or any of them are not habitable, why are they not ? If habitable, but not inhabited, what end do they fulfil ? If inhabited, what are the natures, the capacities, the relations, the destinies of the beings that occupy them ? The philosopher may speculate, the religionist may dogmatize, but we know nothing and can answer nothing.

If we limit our observations to the globe we inhabit, the phenomena of earthquakes, of volcanoes, and generally of meteorology are, in a great measure, inexplicable by us. Such phenomena commence, continue, and terminate without being subject to any known laws enabling us to foresee their occurrence, assign their period of duration, or predict their close ; that is, they happen in apparent disorder and incoherence.

The crust of the earth, as far as it has been penetrated, exhibits a scene of apparent confusion ; and if we accept the explanations of geology respecting successive ages and successive formations with forms of

vegetable and animal life appropriate to each, who can assign the cause or causes that determined the peculiar character of each age, of each formation, and of each form of life? Man is believed to be peculiar to the present geological age. What causes determined the appearance of man on the earth precisely when the conditions existed favourable to his preservation? Shall we say that the favourable conditions called man into existence? But why should the conditions favourable to the preservation of a new form of life produce that form? And what produced precisely those conditions favourable to that new form of life just when it was about to appear on the stage of the world? These are questions that no one can answer. They point to mysteries which to us must ever be inscrutable. We are a mystery to ourselves, and we live in a world of mysteries. In these instances we cannot connect cause and effect, antecedent and consequent. All appears to us dark and unfathomable, loose and disjointed, uncaused and fortuitous.

The same conclusion seems to be deducible from a still closer consideration of the history of our race and of the constitution of human nature. Whether we trace the origin of mankind to a single pair or to different stocks, it is undeniable that large subdivisions of the race have enjoyed different local advantages, have been distinguished by different natural features and qualities, have acquired or adopted different forms of civilization, and have made different degrees of progress in a form of civilization essentially the same. What but Chance has determined these differences and given a permanent ascendancy to the white over the brown

and black subdivisions of mankind; a distinctive character to Assyrian and Egyptian, Greek and Roman, Chinese and Hindu, Celtic, Teutonic, and Slavonic civilization; and a peculiar form to the life of each people and the history of each nation?

While the primary characteristics of humanity belong to all the individuals of the race, what but Chance determines the advantages or disadvantages of parentage, of country, and of religion that belong to each individual; the physical, intellectual, and moral idiosyncrasies that distinguish him; the circumstances that surround him at birth, that control his course through life, and that dismiss him to the tomb? Take any given period of the chequered scene that his life exhibits—a year, a month, a week, a day, an hour—within the limits of that period what connection is there between acts and words and thoughts; the acts inconsistent with the words, the words contradicting the thoughts, and the thoughts arising in casual and incoherent succession?

The moral aspects of life and society afford a seeming support to the theory of Chance. There are various forms of thought and action in which the distinctions of good and evil, right and wrong, truth and falsehood, virtue and vice are recognized. But while these names or their equivalents are found in all languages and among all nations, the acts and qualities which they describe are often different and sometimes even opposite. The standard of morality varies apparently with latitude and longitude, certainly with the different degrees of individual intelligence and with the different forms and conditions of social life. It is not the same in the Feejee Islands and at Paris. It is different at

New York and at New Orleans. At New Orleans there is one standard of morality for slaveholders, another and a contrary one for slaves. Do not these facts constitute a state of moral anarchy? And what is a state of moral anarchy but one in which Chance—the chance of physical and intellectual superiority or inferiority—determines the character of moral actions.

Whatever the standard of morality, whether high or low, general or special, the existence of such distinctions as right and wrong and their correlates, and the unceasing struggle maintained between them in the world, constitute and prove a state of moral disorder, that is, the absence of law and order in moral relations. Reflect on the conflict that takes place in every human bosom during the growth of character between passion and reason, profit and principle, the malignant and the benevolent feelings. What is this but a state of moral disorder? Consider the results of this internal conflict in the personal contrasts that society presents. In some, the love of pleasure, of money, of power, or the malignant feelings and passions, have gained the ascendancy, and their lives exhibit scenes of selfishness, profligacy, avarice, fraud, cruelty, or of all combined. In others, reason, principle, and the benevolent qualities have become predominant, and under whatever provocations and with whatever failings, they live on the whole in the consistent practice of justice, truthfulness, and kindness. A third class consists of those in whom we see or know that a revolt has commenced against the tyranny of the passions, but who have not yet achieved a complete victory over them. They understand and appreciate the better course and too often follow the worse.

They admire virtue and practise vice. They esteem the virtuous whom they cannot imitate, and rank themselves with the vicious whom they despise and loathe. Does not the existence of such moral contrasts of one man with another and of the same man with himself, imply the absence of moral law and order? And are not these contrasts aggravated and the conclusion from them confirmed by the facts that the good are not necessarily happy; that the bad frequently occupy the high and prosperous places of life; and that their very badness contributes not seldom to their elevation and success?

Look at society on a large scale, at society organized by government, laws, and institutions. It is notorious that systems of government are often mere embodiments of brute force; that human laws in letter and in spirit, in their administration and effect, often express the triumph of might over right; and that institutions often consecrate and establish moral disorder and confusion. Peruse the secret history and private correspondence of princes, statesmen, and politicians, and what are they for the most part but a record of the modes in which they have sought to circumvent each other, to raise themselves to wealth and power and glory, and to destroy the rights and liberties of mankind? Survey a field of battle in which hundreds or thousands of human beings, without any mutual ill-will or even personal acquaintance, are arrayed against each other in deadly strife and perish by each other's hands. Live in a slaveholding country where human beings are bought and sold like cattle, are worked like cattle, live like cattle, and die like cattle, and all this with the sanction of law, in the

name of liberty, and with boasts of enlightenment. The conviction is forced on the mind that this light is darkness, this liberty is licentiousness, this law is lawlessness; lawlessness legalized, misrule regulated, essential moral disorder veiled under the semblance and forms of law and rule and order. What conclusion can we arrive at from the contemplation of all these scenes but that there exists in the world a real moral incoherence?

If we seek to trace this deep and wide-spread moral disorder to its source, we shall probably be referred to the liberty of the human will; but this, while it is employed to explain, in fact establishes, the doctrine of universal moral disorder by making it proceed from an ultimate fact in the very constitution of the human mind. For what is the liberty of the human will but the liberty to do or not to do, the liberty to do good or to do evil, the liberty to practise virtue or vice, the liberty to perform what is just and merciful or to perpetrate injustice and cruelty, the liberty to speak the truth or to deceive by falsehood, the liberty to maintain law and order or to establish anarchy and confusion? If man, according to the fundamental principles of his nature, is at liberty to adopt either of those alternatives, the result must be universal disorder and incoherence. If the liberty of the will is denied, and the opposite doctrine of necessity is asserted, this is only to affirm in another form the prevalence of moral disorder, for it is to affirm that we necessarily do that which our most intimate consciousness tells us that we do freely. It thus unsettles the very foundations of our being, contradicts the primary perceptions of our minds, teaches us to distrust the simplest lessons of our consciousness, and

thereby tends to confirm the conclusion that all is disorder, and that there is nothing in nature or in man, in action or in thought, that is not subject to doubt, dispute, and uncertainty.

The popular and practical belief, as distinguished from the speculative and philosophical affirmation, of incoherence in the events of life is very general. The germs of this belief we find embodied in the words hap, luck, accident, contingency, fortune, misfortune, chance, mischance, and in the daily use of these and similar terms, and of the corresponding terms in all languages, to describe events that are assumed to occur either in the ordinary course or out of that course. The ordinary course in the popular judgment is not a course according to necessary law or a supreme will, but according to custom or usage, and this conventional order is the highest conception of law or rule commonly attained. Extraordinary events are not usually regarded as departures from necessary or divine law previously recognized, or as expressions of necessary or divine law hitherto unknown, but as occurrences springing from unintelligible or unexpected combinations of material elements, or from arbitrary and equally unexpected determinations of the human will. In short, the large majority of mankind in all ages, in all nations, and in all grades of civilization, are accustomed to consider events as happening absolutely, desultorily, and inconsequentially; that is, in a manner released from all mutual dependence, without any fixed or prescribed relation, as now advancing and now receding, flowing from no necessary causes and terminating in no necessary results, influenced solely by the arbitrary combinations of ex-

ternal circumstances, and by the arbitrary volitions of individual minds. If general acceptance is a test of truth, then the doctrine of Chance has this proof in its favour.

A marked indication of the popular belief in Chance is exhibited in lotteries, gambling, betting, and in all those ventures and speculations whether in the money-market or in general trade that depend for success, not upon knowledge and experience, skill and judgment, but upon unknown and therefore uncertain, that is, in as far as the gambler or bettor, the adventurer or speculator, is concerned, upon fortuitous conditions. Wherever and whenever, in whatever degree, and in whatever combination with other elements, Chance is tacitly or avowedly introduced as an element upon which calculation is based; wherever and whenever the uncertain is assumed as certain, and the unknown as known, and dependence is implicitly or explicitly placed upon the occurrence of that which is unknown and uncertain, there and then and to that extent, a belief in Chance exists and operates. That belief has assumed even a scientific form, since we are gravely told that it has laws of its own worked out by rigid demonstration, and their results embodied in mathematical formulæ. According to those laws, the probabilities of sickness and death depending mainly upon physical causes, and even the probabilities of marriage, crime, and suicide depending mainly upon the action of the human will, are calculated. It is not certainties but only probabilities, that is chances, which are thus estimated and predicted.

The popular belief in Chance is practically involved

and is openly avowed in the almost universal adoption of self-interest as a rule of conduct. In the ordinary intercourse of life no one is expected or asked to do that which is contrary to his own interest, although it may be in accordance with his professed principles. Almost every one deems himself justified in any act or course of life on the ground that it is conducive to his interest, although it may be scarcely reconcilable with his inward convictions or may be even directly opposed to them. But self-interest is one thing to one man, and another thing to another: to the same man it is one thing to-day, and another thing to-morrow. If self-interest is made the rule of conduct, it follows that a man is justified in doing whatever that rule prescribes or permits; that it may prescribe or permit the most opposite moral acts to different men at the same time, and to the same man at different times; that the attainment of the objects of self-interest constitutes success in life and is the fulfilment of its end; that success is thus the sole test of merit; that successful villany is as deserving of approbation as successful virtue; that unsuccessful virtue is as deserving of contempt as unsuccessful villany; and that life is thus reduced to a calculation of chances dependent upon the comparative adroitness with which interest maintains the struggle against interest, and man against man. This is the logical interpretation of life according to the theory of Chance, and it is affirmed and confirmed by the practical interpretation given by no inconsiderable proportion of mankind.*

* "Favourable Chance, I fancy, is the god of all men who follow their own devices instead of obeying a law they believe in. Let even a polished man of

By this rule nations as well as individuals are guided. The administration of governments is conducted, politics are discussed, history is acted and written without any recognition of fixed and permanent moral laws, and with a distinct and pervading implication that expediency, that is, self-interest well understood, which again is only another form of expression for a judicious calculation of chances, is the sole legitimate guide in public affairs. The gist and spirit of Machiavelli's Prince is that force, fraud, and cruelty, cunning, treachery, and corruption, are legitimate means for the acquisition and maintenance of power; and the history of nations affords almost daily proof that these are the means which more or less covertly continue to be employed. What is this but an abnegation direct or virtual of all moral obligations binding the rulers of nations, and an affirmation explicit or implied of absolute moral incoherence, that is, of chance as the paramount principle in life and history? Rulers and people, the few and the many, thus unite in giving their practical adhesion to the theory of Chance.

Philosophers are not wanting to give their sanction,

these days get into a position he is ashamed to avow, and his mind will be bent on all the possible issues that may deliver him from the calculable results of that position. Let him live outside his income, or shirk the resolute honest work that brings wages, and he will presently find himself dreaming of a possible benefactor, a possible simpleton who may be cajoled into using his interest, a possible state of mind in some possible person not yet forthcoming. Let him neglect the responsibilities of his office, and he will inevitably anchor himself on the Chance that the thing left undone may turn out not to be of the supposed importance. Let him betray his friend's confidence, and he will adore that same cunning complexity called Chance, which gives him the hope that his friend will never know. Let him forsake a decent craft that he may pursue the gentilities of a profession to which nature never called him, and his religion will infallibly be the worship of blessed Chance, which he will believe in as the mighty creator of success. The evil principle deprecated in that religion is the orderly sequence by which the seed brings forth a crop after its kind."—*Silas Marner, the Weaver of Raveloe*, by George Eliot, p. 145.

direct or indirect, to the same theory. It is not necessary in this inquiry, which is not a history of opinion, to dwell at large upon those ancient schools or teachers whose doctrines with various modifications involved this theory. It is sufficient to refer the English reader to the learned treatise of Cudworth for information on this topic; while to the scholar is known the beautiful and instructive poem of Lucretius, beautiful for the natural sentiments which it often touchingly expresses, and instructive for the light which it casts on the state of philosophic thought when it was produced. It is more adapted to the present purpose to cite one or two instances in which modern writers of repute, belonging to our own day, have employed language apparently reconcilable only with the theory now under consideration.

The first instance to be noticed is taken from Mr. Grote's commentary on the story of Dêmokêdês, related at length in his History of Greece, vol. iv. 338-351. Briefly, Dêmokêdês was a Greek physician at the Persian court, who, with a view to obtain permission to return to his native country, sought through Atossa the queen to persuade Darius to invade Greece, about the period between 516-514 B.C., when he would have found Athens under the Peisistratids wholly unprepared to resist. As a preparatory step Dêmokêdês was sent with a body of Persian commissioners to explore the coasts of Greece; but instead of fulfilling the objects of his mission he remained there, and left it to his colleagues to return to Persia, and to report to the king the results of their observations. The expedition to Greece was not undertaken in the reign of Darius,

who, instead, directed his arms against Scythia. Upon this diversion of the force of the Great King from Greece at that precise juncture, Mr. Grote offers remarks, the substance of which is contained in the following passage :

“So incalculably great has been the influence of Grecian development during the two centuries between 500-300 B.C. on the destinies of mankind, that we cannot pass without notice a contingency which threatened to arrest that development in the bud : indeed it may be remarked that the history of any nation considered as a sequence of causes and effects affording applicable knowledge, requires us to study not merely real events, but also imminent contingencies—events which were on the point of occurring, but yet did not occur. Such, at least, is the moral of the story of Démokêdês.”

Thus Mr. Grote, even while recognizing history as a sequence of causes and effects, considers that, in order to afford applicable knowledge, it requires us to study not merely real events, but also imminent contingencies which were on the point of occurring, but yet did not occur ; that is, according to the interpretation of the theory of Chance, probabilities, possibilities, chances. The Chance-theorist may well ask under what category “imminent contingencies” are to be more fitly classed than under that of chances, and that if imminent contingencies or chances enter into the sequence of causes and effects which constitutes history, and affords applicable knowledge, where is the limit to those contingencies and chances to be placed, and may not all history consist of them to the utter annihilation of all sequence

of causes and effects, and to the complete establishment of the reign of Chance?

The second instance of a contemporary author of distinction expressing himself in terms that are apparently in substance favourable to the theory of Chance, is that of Sir George Cornwall Lewis, in his *Treatise on the Methods of Observation and Reasoning in Politics*, London, 1852; and since it is quite possible that the present writer may misunderstand, and unintentionally misrepresent, the sentiments of that author in the same manner as he has himself certainly misunderstood, and doubtless unintentionally misrepresented, the sentiments of a late eminent philosopher, the reader's attention is specially called to the passage now about to be quoted. After referring both in his text and notes to the opinions of ancient and modern philosophers and statesmen—Plato, Polybius, Cicero, and Seneca, Machiavel, Bodin, Spinoza, and Sir William Temple—who held that human events occur in a cyclical order, that is, in ever-recurring series without continuous progression, he goes on to say:—

“Nor, indeed, is it possible (as Mr. Stewart has remarked) to take a retrospect of history without finding much to countenance the opinion that the movement of human society resembles rather the tides of the sea, with an alternation of ebbs and flows, than the steady current of a river deepening and enlarging its course in proportion as it advances from its source.

“‘How mournful,’ he says, ‘are the vicissitudes which history exhibits to us in the course of human affairs; and how little foundation do they afford to our sanguine prospects concerning futurity! If, in those

parts of the earth which were formerly inhabited by barbarians, we now see the most splendid exertions of genius and the happiest forms of civil policy, we behold others which in ancient times were the seats of science, of civilization, and of liberty, at present immersed in superstition and laid waste by despotism. After a short period of civil, of military, and of literary glory, the prospect has changed at once : the career of degeneracy has begun, and has proceeded till it could advance no further, or some unforeseen calamity has occurred which has obliterated for a time all memory of former improvements, and has condemned mankind to retrace step by step the same path by which their forefathers had risen to greatness. In a word, in such a retrospective view of human affairs, man appears to be the mere sport of fortune and accident, or rather he appears to be doomed by the condition of his nature to run alternately the career of improvement and of degeneracy ; and to realize the beautiful but melancholy fable of Sisyphus by an eternal renovation of hope and of disappointment.*

“ Men seem, in all ages, to have been forcibly impressed with the difference between the irregularity and apparent capriciousness of human affairs, and the steadiness of the great movements of external nature. The succession of the seasons, the alternation of day and night, the revolutions of the astronomical bodies, the annual changes of vegetable life, have always been contrasted with the uncertainty of those phenomena which depend on human volition. The irregularity of the moral has ever been opposed to the regularity of the

* *Elements of the Philosophy of the Human Mind*, vol. i. ch. iv. § 8.

physical world. Hence the belief in a cyclical movement of political affairs has never become popular. It has been a sort of *via media*, a compromise devised by philosophers, who could not bring themselves to believe in a progressive amelioration of human affairs, but yet wished to establish some law of constant sequence in politics."—ii. 444-6.

It seems impossible to doubt that Sir George Lewis in this passage means his readers to understand that Mr. Stewart expresses for himself and adopts in his own person the "melancholy" view of the course of human affairs presented in the quotation from his *Elements*. The quotation is word for word correct. Mr. Stewart assuredly wrote those words and expressed those sentiments; but he wrote and expressed them in the character of an objector against the supposition of the progressive improvement of mankind on which all his foregoing reasonings had proceeded; he went on in the very next paragraph and in the whole of the remaining part of the section, in avowed opposition to these discouraging views of the state and prospects of man, with the sagacity of a philosopher and the benevolence of a philanthropist, to suggest and to sustain by various considerations a more hopeful aspect of the tendencies of human society; and he finally arrived at the conclusion that man, instead of being the mere sport of fortune and of accident, running a career of alternate improvement and degeneracy, and experiencing an eternal renovation of hope and of disappointment, is subject to a system of order and of benevolent design in his moral as well as in his material relations. "As in ancient Rome," he says, "it was regarded as the mark of a good citizen

never to despair of the fortunes of the republic,—so the good citizen of the world, whatever may be the political aspect of his own times, will never despair of the fortunes of the human race, but will act upon the conviction that prejudice, slavery, and corruption must gradually give way to truth, liberty, and virtue; and that in the moral world as well as in the material, the further our observations extend, and the longer they are continued, the more we shall perceive of order and of benevolent design in the universe." Such a conclusion is in strange contrast with the sentiments ascribed to the Scottish philosopher by the English politician. It is not here, however, that the reader is to look for an explanation of the origin of this mistake and misrepresentation on the part of Sir George Lewis. It is sufficient in this place to point it out in justice to Mr. Stewart's honoured memory and fair fame as a thinker and a moralist.*

But are the sentiments contained in the passage quoted in the *Treatise on Politics* from the *Elements of Philosophy*, sentiments which are repudiated and refuted by Mr. Stewart, justly ascribed to Sir George Lewis himself? It is difficult to perceive what other tenable alternative is offered to the reader of his work. The passage is quoted apparently with approbation; certainly without any intimation of dissent. An introductory sentence of Mr. Stewart's which marks it as the language of an objector is omitted. No reference is made to Mr. Stewart's preceding and following arguments and illustrations in opposition to its tenour, or to

* See also Stewart's *Elements*, part ii. chap. iv. sect. 6, on Final Causes; his *Outlines of Moral Philosophy*, part ii. chap. ii. sect. 1, on the Duties which respect the Deity; and his *Philosophy of the Active and Moral Powers of Man*, book iii., on the Principles of Natural Religion.

the positive and theistic conclusion already given at which Mr. Stewart arrives. Above all, Sir George Lewis both precedes and follows the quotation from Mr. Stewart with corroborative remarks of his own, affirming in real opposition to Mr. Stewart, but in assumed agreement with him, the cyclical movement of human society and the irregularity of the moral contrasted with the regularity of the physical world. The Chance-theorist, therefore, would seem to be justified in claiming the author of the Treatise on Politics as an adherent of his system of thought, at least in the department of moral relations which include much of the whole field of history. If so much is conceded, what more does the Chance-theorist require? "Is the one Supreme Ruler," he will ask, "competent to control the physical, but not the moral, world; the world of matter and motion, but not the world of mind and thought, of will and action? There is then a limit to his power, a limit precisely in that department of being which is the highest of all, and our relation to which constitutes the true pre-eminence of our race over all other forms of life of which we are cognizant. It follows that we owe him no allegiance, no obedience. We are not subjects of his government, amenable to his laws, accountable to his authority. Or, putting out of view the idea of such a Being, is it a fact that the physical world only is governed by law, and that the moral world, the world of life, of society, of history is, as is affirmed, without law and order? Then from this lower positive as well as from the higher theistic aspect of the human condition it follows that we are the irresponsible creatures of our own absolute will; and confessedly what is there more vague and

fleeting, more irregular and fortuitous, than the volitions of the human mind?" Assume the ground which Sir George Lewis seems to advocate, and there is no escape from the doctrine of Chance.

It is possible, however, that in the passage that has been quoted he may have intended to describe the sentiments of others, not to express his own; and this supposition, although inconsistent with the considerations already mentioned, receives confirmation from the avowal of a belief in "the progressive improvement of a large part of mankind," proved by "the experience of many centuries" (ii. 446), and of an "anticipation that the human race, or at least that certain communities of men, will be progressive hereafter." Unfortunately, however, the form in which this belief and this anticipation are conveyed and the grounds on which they are made to rest, only suggest fresh doubts and afford a further handle to the Chance-theorist. "Our anticipation," he says, "that the human race, or at least that certain communities of men will be progressive hereafter, is founded on our knowledge that certain communities have been progressive heretofore. Since the commencement of authentic history, we can trace the steps and means by which this progress has been effected, and can perceive the mental qualities and physical conditions which were necessary for its accomplishment. Man is a self-civilizing animal; he is at the top of the animal scale; and therefore there is not, in the natural series, any being who can raise him by a process of tuition and domestication to a higher state of civilization when he has reached the greatest elevation among his contemporaries. An Oriental nation might be civilized

by European influence—but a European nation must civilize itself, or remain stationary” (ii. 449). Waiving all other objections to this view of human progress, and limiting attention to that which the present purpose suggests, let it be assumed and admitted that man is a self-civilizing animal, and then let it be inquired whether this inherent capacity or power exhausts all the active causes of human civilization and explains its whole process. If it does, as the author of the *Treatise on Politics* seems unequivocally to assert, if there is indeed in the natural series no other element forthcoming for its accomplishment than the mental qualities of man and the physical conditions of the world in which he lives, then it follows that the only efficient cause of human civilization is human volition, whose products are acknowledged to be eminently irregular and capricious. The progress of civilization is thus based by Sir George Lewis on a quicksand which yields and quakes and deceives at every step; and here, again, the Chance-theorist finds his favourite thought appearing and investing all the events of life and history with the fitting uncertainty of human determinations.

The preceding instances are those of writers who, it may be taken for granted, are conscientious theists, and who have only by a temporary and occasional inadvertence given a seeming countenance to the theory that resolves the events of history and the progress of society into a conflict of irregular volitions and uncertain contingencies. Another instance that may be given is that of M. Auguste Comte, who, in his *Cours de Philosophie Positive*, appears as an uncompromising advocate of invariable Law, which is, not less than theism,

opposed to Chance, and who, therefore, it must be supposed, if he has lapsed into similar inconsistencies, has done so from similar inadvertence. It is only a selection of examples of this class that will be made from M. Comte's voluminous work.

That author, in offering certain general philosophical considerations on astronomical science, expresses the opinion that a careful examination of our solar system cannot fail to extinguish that blind and unbounded admiration which the general order of nature inspires, by showing in the clearest manner and in very numerous and different relations, that the elements of the system are certainly not disposed in the most advantageous manner, and that science permits a better arrangement to be easily conceived. Appended to this opinion contained in his text is a note, in which he adds, that while astronomers in support of the groundless and irrational sentiment of admiration described, appeal mainly to the organization of animals of which they know nothing; anatomists, on the contrary, who are familiar with all the defects of that organization, rest in justification of the same sentiment on the arrangement of the heavenly bodies, of which they have no profound and adequate idea.* Astronomers and anatomists will settle accounts

* "L'exacte exploration de notre système solaire ne pouvait manquer de faire essentiellement disparaître cette admiration aveugle et illimitée qu'inspirait l'ordre général de la nature, en montrant de la manière la plus sensible et sous un très grand nombre de rapports divers que les éléments de ce système n'étaient certainement point disposés de la manière la plus avantageuse et que la science permettait concevoir aisément un meilleur arrangement."—"Il convient d'observer à ce sujet, comme trait caractéristique, que lorsque des astronomes se livrent aujourd'hui à un tel genre d'admiration, il porte essentiellement sur l'organisation des animaux, qui leur est entièrement étrangère; tandis que les anatomistes, au contraire, qui en connaissant toute l'imperfection se rejettent sur l'arrangement des astres dont ils n'ont aucune idée approfondie et ce qui est propre à mettre en évidence la véritable source de cette disposi-

for themselves with M. Comte; and if he can suggest what would be on the whole improvements in the arrangements of the heavens above or in the organization of animals on the earth, the world will hold itself indebted to his sagacity. In the mean time, let what he asserts be admitted, that there is mal-arrangement in the one and mal-organization in the other, and let it be inquired how far he who deems that he can better both is consistent with himself within the very limited range of his own ideas. That such an opinion should be entertained by a believer in chance is intelligible, but it is not so apparent how it can be made compatible with that system of fixed order and necessary law which M. Comte teaches. Under the rule of Chance there is no security for the best arrangement of the elements of the solar system or for the best organization of animal bodies, and a better arrangement or organization than the actual one is not only possible but probable, since the actual arrangement or organization is only one of an indefinite number of chances. On the contrary, under a system of positive law and order such as M. Comte maintains, just as much as under a system of divine law and order which he denies, antecedents and consequents must be conceived to be intimately connected and the mutual relations of things and events well-defined and perfect for their ends. A system of law being the direct affirmation of that of which a

tion d'esprit."—Philosophie Positive, ii. 37. M. Comte has only expanded the language ascribed to Alphonso the Tenth of Spain: *Si principio mundi ipse Deo adfuisse multa melius ordinatusque condenda fuisse.*—Lipsii Opera, tom. iv.; Monita et Exempla Politica, cap. iv.; De Impietate, p. 185, Antwerpæ, 1637. It is to be regretted when Philosophy descends so low as to ape the pride and folly of Royalty. That he had this saying in view may be inferred from the reference at p. 185 of the same volume to "le mot célèbre et encrignique du roi Alphonse," although without quoting it.

system of chance is the direct negation, there is under the former no room for, no possibility of, those failures, flaws, and imperfections, which may and must exist under the latter. Conceive the changes made which M. Comte would recommend, and we shall then have, according to him, a faultless order and organization which will contrast with the disorder and disorganization that are assumed to have previously existed. And what are disorder and disorganization but the absence of law? The present state of things, therefore, according to M. Comte, is a state in which mal-arrangement and mal-organization exist, that is, in which disorder exists; and a state of disorder is one in which law is absent and chance rules. In his anxiety to escape from the Scylla of Theism, he has fallen into the Charybdis of Chance.

It is not in the physical world only that M. Comte perceives disorder, but in the moral world also. In an analysis of the actual social state, he arrives at the conclusion that at the present day war is the sole serious cause capable of interrupting and delaying the fundamental movement of modern societies, that is, their movement in obedience to the fundamental law which he professes to have discovered.* The question to be considered here is not as to the evils or benefits of war; but it is how far an advocate of invariable law is entitled to complain of its evils or to deny its benefits, and to place its effects, whatever they may be, in contrast with,

* "Combien de fois, dans le cours de nos luttes politiques, l'école révolutionnaire malgré ses intentions progressives, égarée par la frivole préoccupation d'un intérêt partiel ou fugitif, n'a-t-elle pas eu à se reprocher d'avoir préconisé la guerre qui constitue cependant aujourd'hui la seule cause sérieuse propre à entraver et à ralentir gravement le mouvement fondamental des sociétés modernes."—*Philosophie Positive*, iv. 81.

or in opposition to, the operation of law. War, when it occurs, is in all its causes and consequences, in all its events and incidents, either beyond or within the province of natural and necessary law. If it is within the province of law, then it does not contravene or frustrate law: on the contrary, it must be subject to law and fulfil law. No act of war, however atrocious, devastating, and decivilizing, however conventionally damnable or morally wrong, is, on the assumption of law, philosophically lawless. If, on the contrary, war is beyond the province of natural and necessary law, then only can it be regarded as a malign influence counteracting law—then only can it be regarded, in the language of M. Comte, as obstructing and retarding the fundamental movement of modern societies, that is, their movement in conformity with the operation of fundamental law. But if war is beyond the province of law, then it is within the province of chance, for there is no mid-region where chance and law have a concurrent jurisdiction; and thus M. Comte blindly negatives that system of invariable law which it is a main design of his labours irrefutably to establish, and virtually ranks himself with the adherents of chance which is equivalent to disorder and lawlessness.

Nor is it occasional incidents only in the history of society, such as wars, that seem to M. Comte to counteract the operation of fundamental law. Certain opinions gaining ground or prevailing in nations the most highly civilized—France, the Protestant countries of Europe, and the United States of North America—appear to him proofs of intellectual anarchy (*anarchie intellectuelle*). The opinions thus denounced are, that interest for the

use of money should be suppressed, that capital cities should be destroyed, that a maximum of daily wages should be established, that compensation for all kinds of labour should be equalized, and that capital punishment should be abolished. This intellectual anarchy, spoken of at first as a veritable phenomenon, becomes afterwards only an anarchical tendency (*tendance anarchique*); an anarchical tendency, however, not confined to a few, but of which he proclaims the deplorable universality; not extending only to the ignorant multitude, but embracing even the most normal intellects.* It is to be observed that M. Comte does not treat of popular questions on popular principles and in a popular style. His work is a philosophy, his principles are rigorously positive, he proposes to discuss and illustrate them in language strictly scientific. Tried by the standard which he has thus himself established, what does this lamentation amount to over an intellectual anarchy, a universal

* "La grande crise politique et morale des sociétés actuelles tient, en dernière analyse, à l'anarchie intellectuelle."—*Philosophie Positive*, i. 48. "1°. L'étrange proposition économique de supprimer l'usage des monnaies et par suite de ramener ainsi la société en vue de progrès au temps des échanges directes; 2°. Le projet de détruire les grandes capitales, centres principaux de la civilisation moderne, comme d'imminens foyers de corruption sociale; 3°. L'idée d'un maximum de salaire journalier, fixé même à un taux très modique que ne pourraient dépasser en aucun cas les bénéfices réels d'une industrie quelconque; 4°. Le principe, plus subversif encore et néanmoins très dogmatiquement exposée de nos jours, d'une rigoureuse égalité de rétribution habituelle entre tous les travaux possibles; 5°. Enfin, dans une classe de notions politiques dont l'évidence plus grossière semblerait devoir prévenir toute illusion fondamentale, les dangereux sophismes de nos philanthropes sur l'abolition absolue de la peine capitale au nom d'une vaine assimilation métaphysique des plus indignes scélérats à de simples malades."—"Il ne faut pas croire en outre que de telles extravagances soient aujourd'hui essentiellement réservées à quelques esprits excentriques ou mal organisés, comme les époques les plus régulières en ont fréquemment présenté. Ce qui caractérise le plus nettement sous ce rapport, l'absence totale de principes généraux vraiment propres à diriger convenablement nos pensées politiques, c'est la déplorable universalité de cette tendance anarchique, la funeste disposition des intelligences même les plus normales à se laisser entraîner souvent par l'unique impulsion d'une vanité très blâmable, à l'apologie momentanée des plus pernicious paradoxes."—iv. 122-124.

anarchical tendency? An intellectual anarchy, or a universal anarchical tendency, is in a philosophical, positive, and scientific sense, the exact opposite of what must be conceived as the natural and necessary effect of the operation of invariable law. It is the product and proof of chance; but chance is utterly abhorrent to all M. Comte's conceptions. The opinions that he has stigmatized with his disapprobation may be sound or they may be unsound, but according to his own testimony they exist, they have been formed, they are expressed. They are facts of greater or less significance in the history of the human mind. They are intellectual phenomena characteristic of individuals, of society, of the age in which we live. Are they the natural products of the laws of thought under certain given combinations of circumstances where they prevail? Or have they arisen by hap-hazard in the minds of those by whom they are entertained? If the former, then they are no proofs of anarchy, or of a tendency to anarchy, in a positive sense. If the latter, then they are proofs of that for which M. Comte has cited them, of an intellectual anarchy, that is, of a lawless chance, a supposition which overthrows his whole system of thought. Within this major inconsistency there is a minor one, but not less palpable. How is it possible that normal intellects should be in a state of intellectual anarchy? Or that an intellectual anarchy should possess as its subjects normal intellects? These are express contradictions in terms, and they are cumulative proofs of the anarchy which, with the aid of M. Comte and in opposition to his positivism, the Chance-theorist seeks to maintain.

When such writers and thinkers as Mr. Grote, Sir George Lewis, and M. Auguste Comte, with apparent unconsciousness but with real inconsistency, thus practically diverge into the phraseology of a theory of life and history which they would utterly disclaim and deny, it is not probable that the religious world will be found wholly exempt from similar incongruities. In point of fact, they are much more prominent in theology than in literature and philosophy.

In the minds of persons of devout and contemplative habits, and in the general strain of theological teaching, both oral and written, the Chance-theorist finds, or thinks that he finds, that the idea of a Divine Providence involves something vague, fluctuating, and uncertain, including or implying an arbitrary interference with law, a capricious obstruction of law, a temporary and occasional turning aside of law from its direct course for a particular purpose, after the accomplishment of which it is again permitted to run in its ordinary channel until a fresh occasion arises for a similar interference. In a profoundly religious and philosophical sense, a particular providence is included in a general providence and a general providence includes a particular providence, just as all the parts are included in the whole and the whole includes all its parts. But this is not the popular, and seldom is it the pulpit, sense of a particular providence, which means rather a special divine interposition affecting particular persons under peculiar circumstances and by unusual means. Hence extraordinary incidents, salutary or adverse, are interpreted either as the special rewards of piety and virtue, or as special punishments of impiety and vice ; and the Deity

is regarded as a Being who is moved by entreaty, who is pleased with worship and praise, who is displeased by the refusal of such acts of homage, and who by exceptional arrangement bestows blessings on his friends which he withholds from his enemies, and delivers the former from evils to which the latter are subject. This conception of Divine Providence produces and exhibits scenes, both in private and in public life, which carry the reflective spectator back in imagination to heathen times and to heathen countries, to a heathen people and to heathen gods. Thus, two vessels pursuing opposite courses cross each other's path on the ocean ; and while the crews and passengers of both believe in the same God, from the cabins and decks of both ascend orisons for prosperous winds to speed them on their respective ways, although the winds that are favourable to one must be, and are known to be, unfavourable to the other. In a worse spirit, and with a still more flagrant inconsistency, rival religionists pray to Him whom they jointly acknowledge as the One Universal Ruler, each for the extension of his own as the only saving faith ; and rival sectarians of the same religion to the One Universal Head of the Church, each for the extinction of the other's faith as a soul-destroying heresy. In like manner, in a war between two Christian nations, the appeal is made from both sides with equal confidence to the Lord of Hosts, the God of battles ; in the solemn hours preceding a mortal struggle between two armies, prayers are offered to the same God from the ranks of both for victory ; and when triumph crowns the arms of either, with the dignity of national authority, and the solemnity of national piety, and the fervour of national gratitude,

Te Deums are chanted by each people for itself to the Great Object of Worship common to the two hostile nations, and the long-drawn aisles and vaulted roofs of Christian cathedrals reverberate with loud and conflicting thanksgivings from the lips of consecrated and stoled priests and from the living hearts of assembled multitudes.

What is all this, asks the Chance-theorist, but to make our own wishes and wants and welfare, real or supposed, the measure and standard of the Divine Government? What is it, but to make the Deity a gigantic Personification of Chance, a party to our paltry hopes and fears, to our personal opinions and interests, to our miserable quarrels, and to our murderous wars, in which every one seeks his own objects at whatever cost to others, and is content to ascribe to an imaginary deity alike the misfortunes that befall his enemies, and the success which he owes to his own skilful combinations? What is it but one of a thousand forms of self-deception, by which the human mind beguiles itself with empty words instead of grasping sober realities? Unstable law is no law. An unstable providence is no providence. Subject law and providence to these casual interferences and interruptions, and the idea of a perfect law and providence is destroyed, and the phenomena of the universe are resolved into chaos. Thus it is that from the very bosom of theism, Chance draws confirmation of its atheistic conclusion.

According to the advocate of Chance, the inconsistencies of religionists go much farther, and he finds arguments for the support of his theory in the very principle and details of Revelation. In all ages and

nations, in modern as well as in ancient times, in civilized as well as in barbarous countries, Religion has been taught and accepted as a supernatural communication of the Divine Will. This is the characteristic of Brahmanism and of Muhammadanism, of Judaism and of Christianity. What is the idea involved in such an alleged supernatural revelation from God? It is that to remedy certain evils and to secure certain benefits to the whole or to a certain portion of mankind, God deems it wise and merciful, just and good, to step out of the ordinary course of his government; to establish a new series of relations with our race; to illustrate and enforce those new relations by the extraordinary apparatus of inspiration, miracle, and prophecy; and by all these means to present new motives for the practice of piety and goodness, and new aids for the attainment of moral and spiritual improvement and of future and eternal happiness. This, argues the Chance-theorist, is to represent God as an imperfect being, surprised by the fall and wickedness of his creature, changing his purposes and plans with the changing character and circumstances of man, recognizing evils which he had not anticipated, and providing remedies which, but for those evils, would have been superfluous. A Revelation containing these implications he regards as a true expression, not indeed of Divine wisdom and goodness, but of the vague imaginations, the wild speculations, and the daring hopes of the human mind, the eddies of the mighty vortex in which man is destined to be tossed and whirled without object as without end.

He re-enforces this view by examining the details of

the Jewish and Christian revelations. Man is made pure, sins, and is specially punished; the earth is cursed for his fault; and one order at least of the animal world shares in the doom. The increasing population of the world lapse into corruption and impiety, and a deluge is sent to submerge its continents and to sweep away its impenitent inhabitants. From amongst the idolatrous nations of the earth one is chosen to preserve the knowledge of the true God, and to that line is vouchsafed the gift of a succession of inspired patriarchs, legislators, rulers, and seers. From that favoured people finally springs a Divine Regenerator of Humanity, who commissions his apostles by miraculous and supernatural endowments to convince and convert the world. Can it be affirmed that these successive expedients to meet sudden and unexpected contingencies are the provisions of a Perfect Being who sees the end from the beginning? They are the manifest representations of the fitful and fortuitous struggle that is ever maintained between human truth and error, human wisdom and folly.

Enough has been said to show the general bearing of what may be adduced in favour of the theory of Chance, and if the writer disavows all sympathy with the sentiments that have been expressed, and the conclusion to which they point, the Chance-theorist will at least admit that his case has been fairly, if not fully, presented, and that a claim may be justly advanced to the exercise of an impartial judgment on his part respecting the opposite theory. If indeed we are, like the fallen and falling leaves of autumn, the mere sport of every wind that blows—if the life of man and the

history of the world have no principle of cohesion, no law of progress, no presiding providence, no defined destiny—then it is right that we should recognize our real condition and accept our inevitable fate. But such a condition and such a fate must be acknowledged to be a very melancholy one, justifying the attempt to discover some more rational and cheerful explanation of the phenomena from which it is deduced.

The views that have been presented will appear to the positivist, whether theistic or anti-theistic, for the most part feeble, frivolous, and false. But it should be borne in mind that it is possible by constantly dwelling upon this aspect of life to work it, as it were, into the mental constitution, to superinduce it on the confirmed habits of thought, to incorporate it with the usages and maxims of society, and systematically to interpret all events by the standard which it affords. When this mental state exists, whether by the aid of reflection or without reflection, Chance appears the simple, the intelligible, and the true construction of the antagonistic influences to which we are subjected, and this form of human character is probably far more common than is generally supposed. However frail may be considered the foundation on which it rests, we are not permitted to ignore its existence, but are bound frankly to confront it, to help it to confront itself by giving form and substance to its perhaps wavering and indeterminate speculations, and to attempt at least to indicate the broader and deeper and surer basis on which the theory of life and history may be built.

This duty acquires the stronger obligation from the fact which has been made apparent that we are prone,

while denying the doctrine of Chance in words, to adopt it at least by implication in our reasonings, in the practices of life, in the administration of government, and even in the principles of religion. It is permitted to receive instruction even from an enemy. Chance may be a false theory of life, but in its very errors it may help to show us some of the fallacies in which we daily and hourly sun our self-complacency. Truth is most clearly brought out by a close and incisive contrast with error. Error is not always error in the mass, truth is not always truth in the mass, but each has most commonly some grains of the other mixed up with it. The grains of truth can be eliminated from the surrounding mass of error, the grains of error from the surrounding mass of truth, only by openness to conviction, by a careful weighing of evidence, and by a calm adjudication on its force and nature. If the writer may speak from his own experience he would say that it is impossible to study the theory of Chance without being strongly confirmed in the truth opposed to it, and without, at the same time, in holding that truth, discovering sources of error to which he would otherwise have been blind.

SECTION II.

The Theory of Law.

THE next theory which seeks to resolve the problem of history is that of Law. This theory has two aspects, which should be carefully distinguished, one towards the theory of Chance, the other towards that of Will. In the former aspect it is an affirmative theory, asserting Law in opposition to chance. In the latter aspect it is a negative theory, denying a Supreme Will. Chance, in the last analysis, is a negation, and whatever denies chance, which law does, must be relatively an affirmation. Theism is not a negation, but an affirmation, and whatever denies theism, which absolute unconditioned law does, must be relatively a negation. It is important to keep in view this double aspect of the theory of law, for a one-sided view of it will contract and distort the judgment. If exclusive regard is given to the affirmative aspect of the theory of law, that is, its opposition to chance, which is the tendency of those who may be called psychical or theistic positivists, then in their endeavours to refute by means of law the atheistic conclusion of chance, they will be less able to perceive and less willing to admit the authority of law under the

theory of Will and within the domain of Theism. If, on the other hand, exclusive regard is given to the negative aspect of the theory of law, that is, its assumed opposition to theism, which is the tendency of those who may be called physical or anti-theistic positivists, then in their anxiety to escape under the sanction of law from a theistic conclusion, they will not sufficiently impress on their own minds or enforce on the attention of others the necessity of applying it in its strictly affirmative aspect to the utter annihilation of chance. On each side there is an inlet to error, if the other side is neglected; in the one case to the psychical, in the other to the physical positivist. Both can guard against the errors to which each respectively is liable only by keeping steadily in view the double aspect of the theory of law.

This is not an unmeaning distinction. It is true in conception, and it has a direct practical influence upon the course of philosophical and religious speculation and upon the character of philosophical and religious systems. Its effect upon the theory of Will and the effect of inattention to it upon theistic reasonings will be noticed hereafter. It belongs to this place to indicate its effect upon the theory of law and the effect of inattention to it upon the most approved exposition of that theory in the Positive Philosophy of M. Comte. That distinguished author has signally failed to appreciate this distinction. He is *par excellence* the advocate of Law, but throughout his voluminous work he has never once taken into account the affirmative aspect of the theory of law in opposition to chance, but has expended all the resources of his mind in illustration of

its negative aspect in opposition to theism. A reader of the *Philosophie Positive* would never learn that law is incompatible with all the theories and applications of chance by which the human mind has beguiled itself in successive ages, and by which it continues to beguile itself to the present day. He would learn only that, according to the interpretation of M. Comte, it negatives a supreme will, a primary cause, a providential superintendence, and every conception of uses and ends in nature and in man. He might, however mistakingly, be led to suppose that in the opinion of M. Comte there was some recondite way of reconciling the conflicting claims of Law and Chance, and of bringing them into friendly accord. He would never learn from M. Comte that in the judgment of theistic positivists Law and Theism are perfectly reconcilable, but on the contrary would conclude from his representations that in the most unqualified sense they are, and are admitted to be, mutual contradictions. The mere neglect of the distinction is not all; but, strangely enough, claiming to be the most positive of all positive philosophers, he has selected for special illustration that aspect of the theory of law which is the less positive of the two. The one, as has been shown, is affirmative; and the other negative. The one is phenomenal, that is, all the proofs in favour of law and opposed to chance, are derived from the actual appearances of nature; the other is non-phenomenal, that is, all the arguments from law brought in opposition to the being and providence of God merely tend to annul the conclusions drawn from phenomena, without being themselves based upon actual phenomena. It is the affirmative,

the phenomenal, the eminently positive aspect of the theory of law which the expounder of the positive philosophy has overlooked. It is its negative, non-phenomenal, non-positive aspect which he labours with persevering iteration to establish. If such an obvious bias does not wholly destroy confidence, at least it should inspire caution. The effect upon M. Comte's own mind will be variously estimated. It may even be deemed not improbable that if he had perceived and faithfully applied this distinction, it would have given a different direction to his investigations, would have preserved him from some of the mistakes into which he has fallen, and would have moulded into a different form his entire philosophy.

This distinction being made, it will be seen that the affirmative aspect of the theory of law, or that which places law in opposition to chance—that aspect which M. Comte has neglected—is here to be considered; while its negative aspect, or that which places law in opposition to theism, belongs to a subsequent part of this Inquiry.

What does the theory of Law as opposed to Chance involve, constitute, express? It involves the denial of chance, it constitutes an affirmation of law, and it expresses that denial and affirmation. Law is the contradiction of chance. It denies what chance affirms, incoherence and disorder: it affirms what chance denies, coherence and order in the sequence of events. To deny chance is to affirm law, to disprove chance is to establish law, that is, it is to affirm and establish an invariable connection between events. According to this theory events do not occur loosely and discon-

tinuously, but are intimately related to each other, inseparably interwoven, and mutually dependent. The successive phases in individual life, in social institutions, and in political history are all respectively linked to each other by indissoluble ties. The causes or antecedents being what they were, the effects or consequents could not have been other than those which actually occurred: the effects or consequents being what they were, the causes or antecedents could not have been other than those which actually existed. Such is the theory of law. It supposes a system in which every thing has an appropriate place, and every person an appropriate function; in which each is a part of a coherent whole, and the whole is composed of connected parts. To suppose any solution of continuity in the operation of causes and effects, any incongruity in the whole, any disconnection of parts, to assume in the strict philosophical and scientific sense any mal-arrangement, mal-formation, or mal-organization is to that extent to combine the element of chance with the dominion of law, and to weld into one mass contradictions and incompatibilities. There is no chance within the domain of law. Law, if it operate at all, cannot but operate, and cannot but be conceived to operate, naturally, necessarily, universally, and invariably.

As it may have been deemed a work of supererogation to marshal the flimsy and absurd arguments in favour of chance, so their flimsiness and absurdity may be supposed to carry with them their own refutation, and to absolve both the writer and the reader from a formal disproof of chance and a formal proof

of law. This, however, would be a hasty conclusion. The doctrine of chance is, indeed, utterly untenable; but the very forms in which the argument in its favour is capable of being, and has been, presented, prove that, rightly or wrongly, it is deeply seated in the minds of men, and that it largely influences their thoughts and acts as individuals, as members of society, as rulers, statesmen, and politicians, as philosophers and religionists. If rightly, let them adopt the theory entirely and boldly avow it. If wrongly, let them with equal explicitness disclaim it in principle and in practice. The alternative here and now is not between law and theism, but between law and chance. It is not between law and a lawgiver, but between law and the absence of all law. It is not between law without, and law with, a presiding mind, a supreme ruler in the natural and in the moral world, but between law the affirmation of universal order, and chance the affirmation of universal disorder. To palter in a double sense between two such irreconcilable theories of life obscures alike the intellectual and the moral perceptions, and while it lowers the dignity, must retard the growth, of character; and every endeavour, therefore, should be made to mark with the utmost accuracy the line that divides them, and clearly to discriminate between their respective characteristics.

There are, doubtless, thinkers who carefully distinguish between the two theories; but they are often, perhaps generally, confounded, without any distinct apprehension of the difference between them, or any conscious appreciation of their opposite principles. In such cases a statement and proof of the uncompromising authority of natural

law will indelibly stamp the difference and show the inevitable alternative. Although the popular belief in chance is not the deduction from a logical process, or the result of deliberate reflection, but is, on the contrary, the premature generalization of uninstructed minds, yet it is held by those who are open to the convictions to be produced by just observation and sound reasoning, and as a corrective, therefore, of practical fallacies an exhibition of the argument for law and against chance is demanded. Even in the minds of those who possess philosophic, scientific, or religious culture, a lurking scepticism of the prevalence of order, a lurking belief in the prevalence of disorder in certain departments of nature, thought, and action, is sometimes found to exist; and this unconfessed, and almost unconscious, scepticism or misbelief can be thoroughly dislodged, and a perfect accordance established between theory and life, between speculation and practice, only by falling back and resting on first principles. The historical bearing of the theory of law is, however, that which most imperatively in this place demands its examination and establishment. The theory of chance puts a negation upon history and all possibility of history, upon the law of history and all possibility of such a law, by denying all connected sequences; and there can, therefore, be no investigation of history, its principles, its elements, its ideas, its development, unless that theory is disproved. To disprove that theory is to prove that there is order in nature, in life, in thought, in society. It is making the first step towards proving the reality of history, and the possibility of acquiring a true conception of the order of historical events.

The proposition, then, to be disproved is the absence, the proposition to be established is the presence, of law, of order, of connected sequences in events. Now it is a fact, which the Chance-theorist himself will admit, that in certain departments of nature law is present, order does exist, sequences are connected. It may still be made a question how that law and order and sequence have been produced, whether they are spontaneous, that is, self-originated, or spring from a higher source ; but still the fact of their phenomenal existence is indubitable. Although we do not know why the relative distances, masses, densities, velocities of the bodies that compose the solar system should be just what they are, yet, being what they are, we know that the times of their revolution and their mutual attractions are determined by fixed law, result in the most admirable order, and consist of constant sequences. Spring and summer, autumn and winter, with modifications in different latitudes, make up the rounded year. The moon even in her changes is regularly changeful. Night enshrouds the world in darkness, which we know the light of day will chase away. The distinctions between inorganic and organic bodies, between vegetable and animal life, between vital and mental phenomena, are permanent. Fire burns certain substances ; water extinguishes fire. Food nourishes, poison destroys, animal life. Nitrogen, which we daily breathe in atmospheric air, is, in an uncombined state, fatal to animal life. In short, every object or substance in nature has its specific elements, properties, and relations, which are as indestructible as the object or substance itself. All, then, is not confusion and chance. Incoherence, if it do exist, is not

universal. Law, order, sequence, are not wholly unknown. The connection of cause and effect, of antecedence and consequence between certain phenomena, can be fully established; that is, there is a fixed and invariable order in the occurrence of certain events.

The impression produced by the contemplation of the steady operation of natural law is illustrated in the poem of Lucretius, the expounder of the Epicurean philosophy to the Roman world. He has been denounced as the apostle of chance, as if he denied all law, whereas he largely dwells upon the uniformity of law and the interdependence of relations. He has been held up as the special teacher of law, as if chance did not at all enter into his scheme of thought, whereas it is the very groundwork on which it is based. This is not the place to explain at length the philosophy of Epicurus or the Lucretian form of it, but it is not foreign to the present purpose to show that the system begins with chance and ends with law. That the existing order of nature was considered to spring from the fortuitous concourse of elementary particles, appears from the passages cited below.* The language of Lucretius

* "Sed, quibus ille modis conjectus materiâ
Fundarit terram et cœlum, pontique profunda,
Solis, lunæ, cursus, ex ordine ponam.
Nam certè neque consilio primordia rerum
Ordine se suo quæque sagaci mente locârunt;
Nec, quos quæque darent motus, pepigere profecto:
Sed quia multa, modis multis, primordia rerum
Ex infinito jam tempore percita plagis,
Ponderibusque suis consuerunt concita ferri,
Omnimodisque coire, atque omnia pertentare,
Quæquomque inter se possent congressa creare;
Propterea fit, utci, magnum volgata per ævum,
Omnigenos cœtus et motus experiundo,
Tandem conveniant ea, quæ conventa, repente
Magnarum rerum fiant exordia sæpe,
Terræ, maris, et cœli, generisque animantum."

De Rerum Natura, lib. v. 417-432. To the same effect, compare lib. i.

would seem incapable of interpretation on any other supposition ; for although his primary object was to negative the Democritic doctrine of sentient and percipient atoms, yet he goes beyond this negation, and not only denies that the seeds of things were intelligent, but affirms that their impulses, repercussions, and combinations in infinite time and in infinite space were wholly casual :

“ Nullo jam pacto verisimile esse putandum est,
Undique quom vrsus spatium vacet infinitum,
Seminaque innumero numero, summâque profundâ,
Multimodis volitent, æterno percita motu ;

Sponte sua, forte obfensando semina rerum
Multimodis, temerè, in cassum, frustra, coacta.”
(ii. 1051-59.)

The extract given from Plutarch containing a more

1020-1036, and ii. 1047-1065. Compare, also, lib. i. 4 of Plutarch de Placitis Philosophorum, which, as throwing light on the question, is here quoted entire :
‘Ο τοίνυν κόσμος συνεστη περικεκλασμένῳ σχήματι ἐσχηματισμένος τὸν τρόπον τούτον· τῶν ἀτόμων σωμάτων ἀπρονόητον καὶ τυχαίαν ἐχόντων τὴν κίνησιν, συνεχῶς τε καὶ τάχιστα κινουμένων εἰς τὸ αὐτὸ, πολλὰ σώματα συνηθορίσθη, καὶ διὰ τοῦτο ποικιλίαν ἔχοντα καὶ σχημάτων καὶ μεγεθῶν. Ἀθροισομένων δὲ ἐν ταύτῃ τούτων, τὰ μὲν ὅσα μείζονα ἦν καὶ βαρύτερα πάντως ὑπεκδίδειν ὅσα δὲ μικρὰ καὶ περιφέρῃ καὶ λεία καὶ ἐνόλισθα, ταῦτα καὶ ἐξεθλιβετο κατὰ τὴν τῶν σωμάτων σύνοδον, εἰς τε τὸ μετέωρον ἀνεφέρετο. ὥς δὲ οὖν ἐξέλιπε μὲν ἡ πληκτικὴ δύναμις μετεωρίζουσα, οὐκέτι δὲ ἦγεν ἡ πληγὴ πρὸς τὸ μετέωρον, ἐκωλύετο δὲ ταῦτα κάτω φέρεσθαι, ἐπιέζιτό πρὸς τοὺς τοποὺς τοὺς δυναμένους δέξασθαι· οὗτοι δὲ ἦσαν οἱ περίξ, καὶ πρὸς τοῦτοις τὸ πλῆθος τῶν σωμάτων περικεκλᾶτο· περιπλεκόμενα δὲ ἀλλήλοις κατὰ τὴν περικλασιν τὸν οὐρανὸν ἐγέννησαν, τῆς δὲ αὐτῆς ἔχουσαι φύσεως αἱ ἀτομοὶ ποικίλαι οὐσαι, καθὼς εἴρηται, πρὸς τὸ μετέωρον ἐξωθουμένη, τὴν τῶν ἀστέρων φύσιν ἀπετέλουν· τὸ δὲ πλῆθος τῶν ἀναθυμιωμένων σωμάτων ἐπληττε τὸν αἶρα, καὶ τόντον ἐξέθλιβε· πνευματούμενος δὲ οὗτος κατὰ τὴν κίνησιν, καὶ συμπεριλαμβανὼν τὰ ἀστρα, συμπεριηγε ταῦτα, καὶ τὴν νῦν περιφορὰν αὐτῶν μετέωρον ἐφύλαττε· καπεῖτα ἐκ μὲν τῶν ὑποκαθιζόντων ἐγεννήθη ἡ γῆ, ἐκ δὲ τῶν μετέωριζομένων οὐρανὸς πῦρ, ἀήρ. Πολλῆς δὲ ὕλης ἔτι περιειλημμένης ἐν τῇ γῇ, πυκνουμένης τε ταύτης κατὰ τὰς ἀπὸ τῶν πνευμάτων πληγὰς, καὶ τὰς ἀπὸ τῶν ἀστέρων ἀφρας, προσεθλιβετο πας ὁ μικρομερὴς σχηματισμὸς ταύτης, καὶ τὴν ὑγρὰν φύσιν ἐγέννα· ρευστικῶς δὲ αὕτη διακειμένη κατέφερετο πρὸς τοὺς κοίλους τόπους καὶ δυνάμεις χωρῆσαί τε καὶ στέζειν, ἢ καθ’ αὐτὸ τὸ ὕδωρ ὑποστὰν, ἐκούσανε τοὺς ὑποκειμένους τοποὺς. Τὰ μὲν δὴν κυριώτατα μέρη τοῦ κόσμου τὸν τρόπον τούτον ἐγεννήθη. This placitum has been ascribed to Epicurus himself. If it was not his, it must have been the production of one of his disciples, and from internal evidence it may be inferred that Lucretius had this, or some similar description of the formative process, under his eye when he wrote the passages of his poem referred to above.

primitive exposition of the Epicurean doctrine, is also worthy of special notice, for there the primordial atoms whose combinations brought about the present constitution of things are expressly said to have exerted not only an unintelligent but a fortuitous motion (*τῶν ἀτόμων σωμάτων ἀπρονόητον καὶ τυχαίαν ἔχόντων τὴν κίνησιν*). To say, as Good does,* that Epicurus and Lucretius used *chance* in a popular, not in a philosophical, sense is untenable. The authors of systems of philosophy must be held to the philosophical use of their own terms, especially when they are employed in explaining the principles of those systems, for otherwise anything may be asserted by themselves or proved respecting them by others, without the possibility of contradiction. According to the Lucretian form, then, of the Epicurean doctrine, the first movements of nature consisted of the chance-conflicts of the primordial elements. But chance no longer exists; law is now supreme. That the universality and uniformity of law are principles of this philosophy appears from many passages of the poem;† and so obvious is this characteristic, that the most recent commentator on Lucretius dwells on it with some degree of enthusiasm, with great frequency, and with considerable variety of phrase, but without attempting to reconcile it with the opposite doctrine of chance, or

* Life of Lucretius, prefixed to the translation of *De Rerum Natura*, p. lxxiii.

† Lib. i. 585-588; ii. 253-258; 300-302; 717, 718; v. 56-59; 310, 311; 921, 922; 1435-1438. The following are the words of the first reference, and the sentiment in all the others corresponds:

“Denique, jam, quoniam generatim reddita finis
Crescendi rebus constat, vitamque tenendi,
Et quid quæque queant, per fœdera naturæ,
Quid porro nequeant, sancitum quandoquidem extat.”

even alluding to that doctrine as one phase of the system.* It is not possible to reconcile them. Philosophers must be allowed to contradict themselves. Nature, the effluence of divine wisdom, is always consistent with herself. Philosophy, the product of human wisdom, is not necessarily so.

It may be possible, however, to understand the co-ordination of ideas in the mind of Lucretius. He conceived of the gods as removed from all concern in human or mundane affairs (i. 57-62); and of Nature, in the language of the Oxford Essayist, as "a blind unconscious sovereign." The first impulses of the original particles of matter were, as has been shown, irregular and conflicting; but, in virtue of a secret capacity (*secreta facultas*, i. 174), of an inherent power (*innata potestas*, ii. 286), of a certain hidden force (*vis abdita quædam*, v. 1232), corresponding with the impulsive energy (*πληκτική δύναμις*) mentioned in the extract from Plutarch, and in virtue also of that spontaneous motion which he everywhere ascribes to matter (ii. 132; 1051-1062; 1156-1159; iii. 31-33; 132, 133; v. 77-82), the present order of nature was established, and then only began those fixed relations and interdependencies, those laws of nature and of fate, which Lucretius conceived as binding the universe in the chains of a stern and irreversible necessity. However this may be, it is important here only to show that he maintained both chance and law; first chance, and then law; chance as giving the first impulsions, and then law as seizing the helm and guiding the universe in its destined course; chance as the speculative explanation by an active and ingenious

* Oxford Essays, vol. i. article i. pp. 15, 22, 26, 40, 44, 45.

mind of the origin of motion and of the collisions and conjunctions of matter; law as an inevitable conclusion, drawn by a keen and close observer of actual phenomena. We may speculate as we please about abstractions, but when we touch the realities of nature and of life, we see that law is the intelligible utterance of fact and experience. We may plunge into the abyss of past ages, and busy ourselves in imagination with the casual conflicts and combinations of primordial atoms, but when we open our eyes intelligently on the actual world above and below and around and within us, we are compelled to acknowledge law and order and sequence.

All this, however, only goes to establish the existence of law, not its universality in space, not its dominion in the eternity of the past, not its perpetuity in the eternity of the future. It embraces only certain classes of phenomena known to us, and leaves unexplained and inexplicable those which are beyond the reach of our finite faculties and imperfect knowledge. How do we know but that chance, as Lucretius seems to have supposed, may have presided at the origin of all things? How do we know but that law, relaxing its grasp, may abandon the universe once more to chaos and disorder? The answer is, that we do not know and cannot know, for the very reason which the objection suggests—viz. that our faculties are finite and our knowledge is imperfect. It would, however, be eminently unreasonable to argue from the existence of law within the sphere of our faculties and knowledge against the existence of law beyond that sphere; from law present and actual against law past and future. The inference is clearly the other way, and this inference is strengthened by the

fact that in proportion as we are able to penetrate astronomically into the depths of space, to understand geologically the changes that have taken place on the earth's surface, and to trace historically the sequence of events among the races of men, in the same proportion we are enabled to extend the confines of that domain within which order and system, fixed and invariable sequences, are perceived to prevail.

In the stellar heavens observers have professed to discover some indications of a system of which the sun, the centre of our system, is only a subordinate member, moving with other subordinate members round a common centre; and if discovery is extended in this direction we shall acquire the perception of order where all is now seeming disorder. In the early ages of the history of all nations the planetary motions appeared uncertain and irregular, and while the earth was regarded as the centre of the system, the explanations of philosophers by cycles and epicycles may have rendered confusion worse confounded; but in the progress of observation and research, the sun instead of the earth was ascertained to be the centre of our system, the laws of the motions of the planets were discovered, and a beautiful simplicity and order were seen to prevail. At one period not only the sun, moon, and stars, but also earth and ocean, fire, air, wind, and other elementary bodies were each regarded as a living personal deity, moved by an arbitrary individual will, propitiated by sacrifices, fitfully granting favours to his worshippers, receiving benefit in return from their offerings, and inflicting vengeance on his own enemies and those of his votaries; whereas at the present day, in the estimation of civilized man, the objects of

nature are divested of divine character and of personal attributes, and as minerals, water, air, &c., are analyzed and ascertained to consist of certain fixed and determinate elements, to possess certain fixed and determinate properties, and to produce under appropriate circumstances and on appropriate substances certain fixed and determinate effects. To the superficial observer the crust of the earth is composed of materials that appear to be heaped together in inextricable confusion; but the scientific inquirer is able to perceive distinct formations belonging to different and distant ages, each with peculiar forms of vegetable and animal life possessing special adaptations to the circumstances of those periods under the operation of the same general laws of matter, of motion, and of life which now prevail. It was at one time conceived that nature was so variable in her moods that the properties of objects were transmutable; that the inferior metals, for instance, could be changed into gold; or, in other words, that the properties of gold could be communicated to the inferior metals: the researches of alchemy for this purpose prepared the way for the science of chemistry which shows that nature, not only in her mere external form and visible manifestations, but also in the intimate constitution of things, is subject to no vagaries, but has fixed and invariable laws. No social movement recorded in history has appeared so sudden, so unaccountable, so irregular, so monstrous as that which commenced in France in 1789, and which has prolonged its convulsive effects to our own day. It has seemed to many to constitute a violent disruption of the established order of society, defying all calculation, ignoring all causation, subject to

no law, and mysteriously separating the past from the future; and yet M. de Tocqueville has conclusively shown that it was the natural and necessary consequence of the state of manners, of morals, and of institutions that immediately preceded it.* Amid the most appalling disorganization that human society ever sustained, law held on in its course, causes produced their legitimate effects, effects followed from their appropriate causes, and, even as in the offensive decay and dissolution of carrion, a superhuman order permeated and controlled the human disorders that seemed to reign triumphant and unchecked.

In short, if, making the present time our point of departure, we take a retrospect of the history of the human mind, and especially of its speculations on the course of events in nature, we shall find that just in proportion as we go back into antiquity the province of chance constantly enlarges and that of law contracts. Or if, making the earliest records of history our starting-point, we read them prospectively, it will be seen that just in proportion as we approach our own age the province of chance is gradually narrowed and that of law extended, by the successive and continually increasing discoveries of science and by the diffusion of the knowledge of their results among the mass of mankind. The legitimate inference is, that the appearance of chance is no proof of its actual operation in any department of nature, but is only an evidence of the imperfection of the human intellect and of the existing limitations of human knowledge. If chance universally pre-

* See De Tocqueville on the State of Society in France before the Revolution of 1789, and on the causes which led to that event, London, 1856.

veiled, our researches into nature would more and more develop the fact. But researches into nature more and more bring out the prevalence of law; and the sound conclusion is, that Law and not Chance, Order and not Disorder, is the universal rule.

The advocate of law takes still higher ground against chance. The discoveries of science are not only inconsistent with the theory of chance, but the theory of chance would annul all science whatsoever. If that theory be true, then it must be true universally and without limitation. It is true in respect of chance as of law that there can be no compromise between the two. But the affirmation of universal and unlimited incoherence when referred to the physical world amounts to a negation of all physical law, that is, to a negation of all physical science. All the discoveries and conclusions of physical science consist in tracing the relations of antecedents and consequents between different facts in nature and in generalizing into law those which are of the same kind and have the same character; that is, in deducing from them the notion of law, or subordinating and classifying them under that general conception. The object of all science is the discovery of law, and the result of all science is the manifestation of law and the exclusion of the idea of chance from the operations of nature. Science extends its boundaries when the connection of facts is ascertained and shown, and wherever that connection is unknown or uncertain, there science does not exist, within those limits science has not penetrated. There is consequently a strict and literal opposition between chance and science, just as there is between chance and law, since science is simply the

knowledge of law. To affirm chance is to deny science, all actual science, all possible science. It is to ignore the discoveries of the past and to preclude all future researches into nature. It is to put an extinguisher on the human mind in every branch at least of physical knowledge. The consistent believer in the theory of chance must erase from his mind all knowledge of the physical sciences, must refuse to recognize the knowledge of them in others, and must cease to employ such knowledge, or to recognize the employment of it by others, in the business of the world. Every man who believes that the sun will set this evening and will rise to-morrow, and who acts accordingly, is a believer in law; he who does *not* believe that the sun will thus set and rise, and who acts accordingly, may claim to be a believer in chance.

The same reasoning applies to the intellectual world, the world of thought. On the assumption of chance there can be no science of thought, no continuity of thought, no recognition of that continuity either in our own minds or in the minds of others. It is only on the assumption of law that such science, continuity, and recognition of continuity can exist. When one goes to sleep at night, why does he believe that on the following morning he will awake the same man, not only in limb and feature, but in the faculties of his mind, in the kind and degree of their culture, in the general tone and direction of his mental habitudes, and in the whole amount of his mental associations and affinities? And why does this belief acquire from daily experience such strong confirmation as to lose even the character of a belief altogether, and to become a conclusion as familiar

to the consciousness as that of his own existence? The reason is that mind and thought are as much subject to law as matter and motion, and that "nature's sweet restorer, balmy sleep," does not violate the laws of mind, but only suspends their operation; does not destroy the continuity of thought, but on the contrary permits a renewed, perfect, and unbroken connection to be established between the past and present mental states. This could not take place with the persistent uniformity which every person possessing a sound mind in a sound body experiences, if there were no law, no order, no connected sequence in thought. The consciousness of personal *existence* at any given moment of time, and the consciousness of personal *identity* at any two given moments of time, are distinct apperceptions of the mind;—and the distinction, if clearly apprehended, enables us to understand what we should be if we were subject to chance, and what we are being subject to law. If chance ruled, we might continue to enjoy a personal existence, in which every man would be a Christopher Sly, getting drunk a clown and sobered into a lord, or going to sleep a fool and waking a philosopher, or *vice versâ*, without consciousness or knowledge of the mutation. Nay, such changes might occur without the intermediate stages of insensibility, and even the hours and the minutes of our conscious and waking life might exhibit us in a series of successive and opposite characters, in which motley would be the only wear; for it is evident that where there is no continuity of thought, there can be no consistence of character; and that on the other hand consistence of character is simply the expression of that continuity. It is because there are laws of

thought firmly binding the past, the present, and the future, that we possess the consciousness of personal identity over and above the consciousness of personal existence; that we know ourselves to be intellectually the same to-day that we were yesterday; that we know ourselves to be the same this instant that we were an hour ago; that to-morrow we shall know ourselves to be the same that we are to-day; and it is in virtue of the same laws of thought that, in that future state of being which we are permitted darkly to hope for, we believe that we shall recognize ourselves as those who have passed through this beauteous yet mysterious world, and the changeful and troubled scenes which it presents. Neither here nor hereafter could there be continuous thought, if there were no laws of thought; and without continuous thought, mental life would be made up of unshapen fragments and loose filaments of thought, desultory phantasies, contradictory resolves, unperformed promises. The promises of to-day would be forgotten to-morrow. The bargains of to-day would be unfulfilled to-morrow. The fears of to-day would be the hopes of to-morrow. The hopes of to-day would be the fears of to-morrow. The absence of natural law, in fine, involves the negation not only of physical science, but of all human law and legislation, of government, of society, and of all political, social, and religious institutions, for of all these natural law is the basis and cement, without the support of which they topple, and fall, and crumble into dust. How can a Chance-theorist piece together even his own thoughts into an argument against law, if thought itself had no law, no continuity, no causation, no connected sequence, no fixed relations?

The moral phenomena of human life and character that appear favourable to the theory of chance open some of the most obscure questions which have engaged the attention of thinkers ; but the object and scope of the present inquiry will permit the suggestion only of such general considerations as bear strictly upon that theory.

Let it be once for all fully and unequivocally admitted that there is moral disorder in human nature, and that it more or less develops itself in every form of human character, in every condition of human life, and in every stage of human history. In the physical world it is found, as has been shown, that as science advances disorder recedes ; that the more we know, the more we perceive law and order to prevail in nature ; and that consequently in that sphere it is not disorder, but the appearance of disorder, that creates doubt and embarrasses inquiry. The facts are different in the moral world. Moral disorder exists, and does not only appear to exist. It is not only seeming, but real and actual, a phenomenon to be explained into the anarchy of chance or into the dominion of law in any way that may satisfy the reason, but neither to be denied as non-existent, or ignored as unimportant. We perceive it around us in a great variety of forms. We are ourselves the subjects of it. It is the object of our deepest and most intimate consciousness. The question, then, is not whether there is such a thing as moral disorder in human life and society. Its existence is not only admitted, but asserted as wholly indisputable. The only question is, How are we to understand it ? How are we to construe it to our own minds ? Is it universal ? If

universal, how can universal moral disorder be, or be shown to be, consistent with universal physical order? How can it be, or be shown to be, consistent even with the partial order of human society? If not universal, how can partial moral disorder be, or be shown to be, consistent with universal moral order? And is that partial moral disorder an unnatural excrescence upon human nature? Or, is it the natural product of a natural cause under a system of natural and universal law?

The first supposition is, that moral disorder is universal; that it is the rule, and not the exception to the rule. This supposition coincides with the popular conclusion at which, according to Sir George Lewis in a passage already quoted (pp. 24-30), men have in all ages arrived, and to which he gives an apparent assent, that the general course of human affairs is irregular, capricious, and uncertain, in consequence of its dependence upon fluctuating human volitions. The effect of this view is to draw a very broad and marked distinction between the physical and the moral world, the order of the one and the disorder of the other, and to lead to a form of the Manichean doctrine of two principles—a form very different from the Oriental one—in which one principle, that of order, presides over the physical phenomena of the universe, and the other, that of disorder, over its moral phenomena. On a superficial consideration this distinction may appear tenable; but on closer inspection it cannot be maintained. While it is admitted that there is a certain amount of truth in the alleged contrast between the physical and the moral world, the regularity and steadiness that characterize the phenomena of the one, and the irregularity and ca-

preciousness that characterize those of the other, it is at the same time clear that a similar contrast prevails within the domain of the moral world itself and between the phenomena which it presents. As the best of men are not without some drawbacks from their excellence known at least to themselves, so the worst are not wholly bad, and both exemplify the struggle which with different degrees of success is maintained between moral good and moral evil. The mere fact that there is such a struggle, however unsuccessful, shows that moral disorder is not universal, for if it were there could be no contest. But it is not always unsuccessful, and in instances, it is to be hoped, not very infrequent, reliance may be placed upon the truthfulness, the justice, the kindness, and the purity of the good man with as confirmed a confidence as upon the operation of any physical law. Nor is it individual excellence only to which an appeal may be made. The virtues of domestic life, the amenities of social intercourse, and the institutions of civil government, could not have taken root in human nature, could not co-exist among different nations of the earth, and could not be transmitted in them all from age to age without some inherent principle of moral coherence. The very existence of human society therefore is alone a sufficient disproof of the universality of moral disorder.

(2) The second supposition is that moral disorder is not universal, but partial; and this conclusion is confirmed by the consideration that physical and moral phenomena are not so distinctly separable as has been assumed, and that therefore law which is found so strongly marked in the former probably prevails also

in the latter. However we may in idea distinguish between the physical and moral worlds, between physical and moral relations, they are inextricably interwoven with each other in the human constitution and in the experiences of life. We know, for instance, that physical causes produce moral effects; that particular descriptions of food, especially when consumed in excessive quantity, contribute to degrade and brutalize the character; that the same or other descriptions taken in moderate proportions tend to soften and refine the dispositions; that the physical adaptation of the sexes to each other may be applied to the most beautiful moral uses, and may be made to constitute the foundation of the most admirable domestic and social virtues; and that it may be perverted to produce the grossest licentiousness of manners and the basest demoralization of character. In like manner we know that moral causes produce physical effects; that anxiety produces insanity, and terror death, while love and hope and trust infuse new vigour into the frame and enable it to sustain labours under which it would otherwise sink. Where shall we draw a line between the two classes of phenomena, the physical and the moral?—between the physical and moral worlds, the regions respectively, according to the view we are now considering, of order and of disorder? There is no such line to be drawn. The two classes of phenomena inseparably commingle. The two regions are not rigidly conterminous, but interpenetrate each other at all points and in all directions. To aid ourselves in the careful discrimination of our own conceptions we make two worlds, the physical and the moral, while there is in fact but one, the

theatre both of physical and moral phenomena. To aid ourselves in the accurate comprehension of the conditions of our own being, we ascribe to ourselves two natures, a physical and a moral, while we have in fact but one sustaining both physical and moral relations. Since, then, we have but one nature sustaining both physical and moral relations, and since there is to us but one world, the theatre both of physical and moral phenomena, and since order has been found to prevail among phenomena and relations strictly physical, there is the highest improbability that it does not prevail among phenomena and relations strictly moral; that is, there is the highest probability that order does prevail among moral as well as physical phenomena and relations and amongst all their varied and intricate combinations. The inference from this consideration tends not only to negative the universality of moral disorder, but to affirm the universality of moral order; for in such a unity as human nature presents, to suppose either that physical phenomena and relations are subject to law and moral phenomena and relations exempt from law, or that certain moral phenomena and relations are subject to law and that certain other moral phenomena and relations are exempt from law, is to suppose that nature works at cross purposes with herself.

(3) We are carried on still further in this direction, that is, towards a conviction of the universality of moral order, when we reflect that the distinctions of good and evil, of right and wrong, of truth and falsehood, of virtue and vice, do exist, and that we cannot but recognize them; that we recognize them with in-

creasing confidence in proportion as the faculty of making them is cultivated ; that we recognize them in the solemn and secret judgments pronounced by ourselves on ourselves ; and that we recognize them in the sentiments of approbation and of disapprobation and in the various modes of expressing those sentiments regarding the conduct and character of others. It is quite unimportant to this view that what at one time and in one latitude is called good at another time and in another latitude is deemed evil. This merely shows a difference of moral culture at different periods and in different localities. The essential fact is that wherever human beings are found, there something is called good, right, true, virtuous, and therefore obligatory ; that something different and opposite is deemed evil, wrong, false, vicious, and is therefore made the object of censure or prohibition ; that the capacity of making these distinctions is inherent in the constitution of human nature ; and that the exercise of that capacity springs from the very necessities of our being. It does not depend upon our own arbitrary volitions whether we shall or shall not make such distinctions. We do and must recognize them. Now the reality of such distinctions constitutes a law of moral order, and our habitual acknowledgment of them is the habitual acknowledgment of such a law. This moral order is the direct antithesis of moral incoherence or chance. The one conception negatives the other. If chance prevailed, all actions would be morally indifferent. There could be no moral good or moral evil. Universal incoherence would extinguish both the conception and the existence of moral relations. The capacity to dis-

tinguish between right and wrong as an element of human nature and the necessity of its exercise in some form or another as an element of human conduct are wholly incompatible with the notion of such moral incoherence; while the universality both of the capacity and of its exercise suggests the universality of moral law.

The acknowledged existence of moral disorder, instead of being an argument for the doctrine of chance, helps to prove the opposite doctrine. The argument is that moral disorder exists and that therefore it must exist; that it has existed and will exist always, everywhere; and that it is the necessary and inevitable characteristic of our moral nature. It is obvious here that the conclusion is considerably broader than the premisses from which it is deduced. But, waiving this consideration, it is answered that moral order also exists; that we are conscious of an inherent capacity to make moral distinctions and of an inevitable necessity imposed on us by the constitution of our nature to make them in actual life; and that thus order, as well as disorder, constitutes one of the moral phenomena of our being. We have here at least an apparent equality of proof in favour of the two opposite doctrines, and it is as incumbent on the advocate of chance to account for the phenomena of moral order as it is on the advocate of law to account for the phenomena of moral disorder. To this he responds, not without plausibility, that the equality of proof is only apparent, and that a little deeper insight will enable us to perceive that the perpetual conflict of order and of disorder in moral relations is itself a proof of universal moral disorder. Order is fixed and invariable law: moral

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order is fixed and invariable moral law. To exist at all, it must exist universally, without exception of time or place or person or circumstance. If it appear only as an opponent of moral disorder, it is itself an element of that moral disorder against which it contends. This is only plausible without being convincing. It is admitted that the fixity and invariability of law are the necessary conditions of order, and that the fixity and invariability of moral law are the necessary conditions of moral order; but, while it is denied that moral order is itself an element and proof of moral disorder, it is contended on the contrary that moral disorder contains an implication and constitutes a proof of moral order. Moral order is a positive idea: moral disorder is a negative idea. Moral order may exist and may be conceived to exist without moral disorder. Moral disorder cannot be conceived to exist and cannot exist in fact except as a protest, an antagonism, a rebellion against moral order. To whatever extent moral order exists or is shown to exist, it proves itself: it is its own sufficient evidence. To whatever extent moral disorder exists, it proves its opposite: it bears testimony to the existence and reality of that moral order whose authority and laws it contradicts.

The final and conclusive argument against chance is that, to whatever extent moral disorder can be shown to exist, it does not exist at all in the sense necessary to support that theory. That it does in some sense exist has been already admitted and is still maintained; but it is now important to discriminate the sense in which that admission has been made. The existence of moral disorder is admitted and maintained when it is regarded as consisting of the voluntary acts of rational beings

springing from immoral motives and directed to immoral ends. Now in this sense it affords no support whatever to the theory of chance. Moral disorder can afford support to that theory only when it is understood in the sense of a negation of moral law, an emancipation from its authority, an escape from its sanctions, at least within the limits to which the moral disorder extends; and these effects are always and everywhere wholly unknown. Moral law in the midst even of the greatest moral disorder manifests its existence, asserts its supremacy, and inflicts its penalties. The immoral motives from which the immoral voluntary acts of rational beings proceed, and the immoral ends to which those acts are directed, involve the existence of moral motives and moral ends which are resisted, and moral motives and moral ends can exist only in a state of moral law and order. Moral law and order not only exist, but they make themselves to be felt, when moral disorder seems paramount. When the voluntary acts of rational beings, such as men are, spring from immoral motives and are directed to immoral ends, they are not absolved in a single instance or for a single instant from moral laws; but on the contrary moral law, even while they are in the very act of voluntarily transgressing its dictates, holds them tenaciously in its grasp and inexorably imposes the consequences of disobedience.

In this respect there is a perfect accordance between the physical and the moral aspects of human nature. In the physical order of relations when we remove ourselves from the operation of one law, we pass under the operation of another. Whether we warm or burn ourselves with fire—whether we are invigorated or starved with

cold—in each case we live and act, enjoy or suffer, under the natural and necessary operation of law. We may knowingly and wilfully transgress one physical law, that for example which prescribes moderation in the use of food; but if we do, we pass under the operation of another law which assigns certain physical consequences to the act of physical excess. We cannot escape from the jurisdiction of physical law. We cannot go beyond the boundaries within which it asserts its authority. By the act of others we cannot be outlawed, by our own act we cannot exile ourselves and disclaim allegiance. Physical law is universal, all-pervading, all-powerful. Just so is it in the order of moral relations. By an act of the will and under personal moral responsibility, we may resolve to violate any one of those moral laws which our as yet imperfectly developed or instructed moral nature recognizes, the law of truth, the law of justice, the law of kindness, or any other moral law. But if we do, we do not thereby cease to be moral beings. We do not thereby cease to sustain moral obligations. Moral law is not thereby annulled, does not thereby cease to operate. Like physical law, it never releases us from its hold. It continues to encompass us on all sides, to meet us at every turn, and to visit us with the certain consequences of our own acts. If we violate the law of truth, our veracity will be distrusted; of justice, our integrity will be questioned; of kindness, we shall lose the affection which smoothes the path of life. And so with numerous other consequences direct and collateral which the violation of any moral law commonly entails even in the intercourse of society, besides that internal moral dete-

rioration which the violation implies and confirms and by which it is still more profoundly punished. We cannot, then, disfranchise ourselves from the obligations and sanctions of moral, any more than from those of physical, law. Moral disorder, in as far as it exists, gives no countenance to the theory of chance. Moral disorder, such as the theory of chance requires to sustain it, is unknown in the actual constitution of human nature and in the actual relations of human life. Moral disorder, such as we see or experience every day of our lives, is a continual evidence of the existence and of the stringency of moral law.

The definition that has been given of moral disorder as consisting of the voluntary acts of rational beings, leads to the consideration of the twofold argument in favour of chance drawn from the assumed necessity or freedom of the will. If the determinations of the will are necessary, it is argued that this necessity contradicts our consciousness of freedom, and by thus unsettling our primary conceptions and most intimate convictions throws all moral questions into inextricable confusion and uncertainty, that is, into a state incompatible with the existence and operation of law. The answer is, that we have no reason to believe that the first intimations of consciousness, any more than that the first perceptions of sense, are always correct. Both require to be rectified by experience, by observation, by reflection; and the contradictions which these sometimes give both to the one and to the other need not shake our belief in the stability of law. One of the first perceptions of sense is that the sun goes round the earth; and when we learn that the earth goes round the sun, we all the more be-



lieve in physical law. One of the first intimations of consciousness probably is that each is a little world to himself without any external relations; and when we learn that such relations exist, we all the more believe in moral law. In like manner consciousness tells us that the determinations of the will are free, but if it can be shown on rational grounds that they are necessary, we shall all the more believe in law both physical and moral, from which in that case not even the human will, apparently the most arbitrary of all known agencies, is found to be exempt. Thus the doctrine of the necessity of the will, if it were true, would strengthen instead of weakening our belief in law.

On the other hand, if the determinations of the will are free, it is contended that this freedom is a freedom to do well or to do ill, and that such a freedom is a direct abnegation of law. But it has been already in substance shown that the moment a thinking being puts forth a volition, that is, a simple and single act of the free will, whether of moral or immoral motive and tendency, that moment it becomes subject to law and entails upon the conscious and thinking author of the volition the necessary consequences, good or bad, which the existence of moral law affixes to such an act. The supposition is that the will is free, that is, free to will, free to be what it is, free to act out its own nature. For what is will which is not free to will? Does not freedom enter into the very conception and definition of the will? But in volitions, that is, in the free acts of willing, the will is not free from law. As soon as it acts what it is, as soon as it develops itself into a volition, so soon it passes into the province and under the autho-

city of law. It is scarcely necessary to remark that we are not here discussing the large question of the freedom or necessity of the will, but are merely considering the alleged inconsistency of either hypothesis with the theory of law. From neither the one hypothesis nor the other, can the doctrine of chance draw any support. On both hypotheses the authority of law is fully maintained.

With regard to the popular and practical belief in chance including all those cases which come under the head of accidental occurrences or games and ventures of chance, the most general form of that belief may be regarded simply as an expression of ignorance, or of indolence, or of natural incapacity. When we think or speak of any thing happening by chance or depending upon chance, it may be that either from defect of previous intellectual discipline we do not know, or from defect of present intellectual effort we do not reflect, or from defect of natural capacity we have not the power of understanding, that the event belongs to a series and that all the events of that series are bound together by indissoluble links, however remote they may be from our perception or even conception. When from any of these causes the series is unknown, the given event belonging to it must appear to us isolated and disconnected; but neither our ignorance nor our indolence nor the feebleness of our powers takes it out of the series to which it belongs or justifies a doubt respecting the existence of such a series. The use of the word chance, and of its related or analogous terms, will continue only so long and so far as those causes operate, and the disuse of them and of the hazards they

describe, will correspond with the growing precision of our ideas, and with the growing accuracy of the knowledge which those ideas express. Chance, whether on 'Change or on the turf, in the betting-ring or at the gaming-table, is the confession of ignorance and the faith of fools.

This needs to be specially borne in mind when chance is applied under the form of self-interest and political expediency to the regulation of life and the government of nations. If the maxim *quod semper, quod ubique, quod ab omnibus*, could ever with propriety be adduced as a moral proof of doctrine, it would surely be in this case, for the believer in chance has the indisputable right to assert that in the management of affairs there is no principle whose potency is more generally felt and acknowledged. It is recognized alike in all ages and in all climes; by the peasant in his cottage and by the king on his throne. It is the mainspring of industry, of trade, of party-politics, of international diplomacy. It is very perceptible within the sacred precincts of the church and in the sacred professions of churchmen. The fact is not to be denied; it is the inference from the fact that can alone be questioned. Does the fact that men act chiefly from self-interest and expediency prove the doctrine of chance? To ask the question is to answer it. It does not prove that doctrine; it only proves their belief in it. This is certainly proving a great deal. It is proving that among the highest and the humblest orders of men, in the ranks of the most rampant orthodoxy and of the most flaming fanaticism, lurks a radical belief in chance, a virtual unbelief in universal order, a practical worse than any speculative

atheism, and that in this form an enormous amount of self-deception or of hypocrisy is deeply imbedded in the general mind and pervades all the conditions of social life. But still, overwhelming as the facts are, they do not unsettle the foundations of law. That life and history are not the mere chance-conflicts which the doctrines of self-interest and political expediency would make them to be, is proved by what has been already shown that in the moral not less than in the physical order of relations there are laws from the jurisdiction of which, in one form or another, no one is absolved. It may not always, within the scope of our limited perceptions, appear conducive to private interest to abstain from deception or fraud, to speak and act the truth, to practise justice and mercy. It may not always, within that scope, appear conducive to public interest to resist the temptations of ambition and the opportunities of unjust acquisition, to protect the weak and oppressed and to withstand the powerful oppressor. But it will be always right to do so; that is, to do so will always be conformable to the laws of our moral nature, which dictate truth and justice and mercy, temperance in the use of power for our own benefit and self-sacrifice for others, and which are violated and outraged by falsehood and injustice and cruelty, irrespective of the external consequences, immediate or remote, of such violation.

The doctrine of probabilities is employed with a mere show of reason to sustain the theory of chance. M. Auguste Comte, the special advocate of law, would limit the application of that doctrine to games of chance, and denounces the philosophical conception on which it

rests as radically false and absurd in its consequences; the fundamental notion of the estimated probability irrational and even sophistic, its application to social questions puerile and illusory, practically regarding as numerically improbable events that are just on the point of occurring, superseding the exercise of the judgment, and falsifying the suggestions of good sense;* a somewhat supercilious estimate of the grave speculations and practical deductions of such men as Bernoulli, Laplace, and Demoivre, Simpson, Price, and Morgan. If this denial of the doctrine of probabilities had proceeded from its assumed hostility to the theory of law, there would have been at least an appearance of consistence. But no intimation of this kind is given, and no such consideration was likely to occur to a positivist who, with a one-sidedness that has already been remarked, regards law

* "Je ne puis m'empêcher de témoigner ici combien tous les bons esprits étrangers aux préjugés mathématiques ont dû trouver puérile et déplacée la singulière application du calcul des chances, indiquée d'abord par Daniel Bernoulli, et péniblement complétée en suite par Laplace lui-même pour évaluer la probabilité que ces phénomènes ont réellement une cause, comme si notre intelligence avait besoin d'attendre une telle autorisation arithmétique avant d'entreprendre légitimement d'expliquer un phénomène quelconque bien constaté, lorsqu'elle en aperçoit la possibilité."—*Philosophie Positive*, ii. 370. "Le calcul des probabilités ne me semble avoir été réellement, pour ses illustres inventeurs, qu'un texte commode à d'ingénieux et difficiles problèmes numériques, qui n'en conservent pas moins toute leur valeur abstraite, comme les théories analytiques dont il a été ensuite l'occasion, ou, si l'on veut, l'origine. Quant à la conception philosophique sur laquelle repose une telle doctrine, je la crois radicalement fautive et susceptible de conduire aux plus absurdes conséquences. Je ne parle pas seulement de l'application évidemment illusoire qu'on a souvent tenté d'en faire au prétendu perfectionnement des sciences sociales: ces essais, nécessairement chimériques, seront caractérisés dans la dernière partie de cet ouvrage. C'est la notion fondamentale de la probabilité évaluée, qui me semble directement irrationnelle et même sophistique: je la regarde comme essentiellement impropre à régler notre conduite en aucun cas, si ce n'est tout au plus dans les jeux de hasard. Elle nous amènerait habituellement dans la pratique à rejeter, comme numériquement invraisemblables, des événements qui vont pourtant s'accomplir. On s'y propose le problème insoluble de suppléer à la suspension de jugement si nécessaire en tant d'occasions. Les applications utiles qui semblent lui être dues, le simple bon sens, dont cette doctrine a souvent faussé les aperçus, les avait toujours clairement indiquées d'avance."—*Note*, p. 371.

not as opposed to chance but solely and exclusively to theism. The denial proceeds on assumptions that are not only negatived by high names in mathematical science, and amongst others by one of the very highest, but that would also practically ignore all the social and economical advantages derived from life-assurance and kindred applications of the doctrine, in which it would be easy to show how little dependence is to be placed upon that good sense which in such questions appears to be M. Comte's last resort. We are concerned with the doctrine here only in so far as it has been or may be employed to support the theory of chance and controvert that of law. But in truth it does not give any aid to the former, nor does it affect the validity of the latter. Dr. Hutton, treating of the Doctrine and Laws of Chance, truly affirms:—"When we say a thing happens by chance, we really mean no more than that its cause is unknown to us."* In every case it is assumed that there is some law, known or unknown, of matter or of mind, which regulates the event. If no law operated, there could be no basis for calculation, no ground of probability. The calculus of probabilities would not exist, and every event would be as probable and as improbable as every other, defying every calculation and every conclusion, whether of sound judgment or of good sense. When therefore we are told that chance has laws of its own, the obvious answer is that chance, if it exist, has and can have no laws, for its definition is an absolute negation of law. If on the other hand what is called chance has laws, then by that very fact it ceases to be chance and passes into a system of regular and

* Philosophical and Mathematical Dictionary, i. 303.

orderly sequences. The doctrine of probabilities professes to estimate the events of the future, but in all important practical applications the expectations of the future are rigidly deduced from the facts of the past, and it is just in proportion to the breadth and the accuracy of the knowledge of the past that dependence can be placed upon the conclusions drawn as to the future. It is notorious, however, that the events of the past bearing on the expectations of the future, that is, vital statistics, have been very imperfectly preserved and recorded, and hence the doctrine of probabilities may be regarded as a tentative doctrine whose adherents have hitherto been chiefly engaged in collecting the *data* from which their deductions may be made. The present imperfection of those *data* unavoidably gives a character of mere probability, of uncertainty, of chance, to those deductions. This does not prove the existence of chance, but is only an indication of the defective state of the doctrine and of the existing limitations of human knowledge respecting the numerous and complex phenomena to which it relates.

The occasional admission of chance by the advocates of law may be only apparent, or it may be real. If it is only apparent; if undesigned by the writers themselves; if their language is misinterpreted; or even if it is correctly interpreted and a just inference is drawn from it which yet they did not mean to sanction, their authority cannot be fairly adduced in support of the doctrine of chance. When the object is truth and not victory, a writer must be understood to express not what he says, but what he means to say; least of all should he be understood to express what he neither says nor means

to say; and on one or other of these grounds most of the writers who occasionally slide into a seeming admission of chance may be vindicated from the imputation of countenancing that theory. If the admission of chance is real, that is, if it is not only apparent, not only expressed or inferred, but meant by the writers in question, still there is no argument for chance, but only a proof of their own inconsistency with themselves, for the same writers on other occasions will strenuously contend for the doctrine of law. The inconsistency is undeniable. There is and can be no middle ground between law and chance. Between these two principles there can neither be a concurrent jurisdiction within the same limits, nor a divided jurisdiction over different territories. They are mutually contradictory and mutually destructive, so that it is impossible from the very definition of either that law can prevail in one department of being and chance in another, or that they can coalesce and exist in friendly union. Either chance is universal and every thing exists and happens by chance; or law is universal and every thing exists and happens according to law. Whatever facts may come before us, whatever hypotheses we may frame to explain them, whatever experiments or discoveries we may make, whatever provinces of nature or of being we may explore, whatever conclusions we may reach, or whatever doctrines we may believe in philosophy or in science, in morality or in religion, the one thing certain is that we must choose between Chance and Law. There is no other alternative. If in a single instance we abandon the one, we must adopt the other.

Reference has already been made to the poem of Lu-

cretius, and, according to the view that has been taken of it, the recognition of chance in that interesting exposition of the Epicurean philosophy is not only apparent but real, not merely inferential on the part of the reader, but intentional on the part of the writer, as real and intentional as his recognition of law; chance in the earlier, law in the later stages of the formative process. This interpretation is a *via media* between making Lucretius the teacher of chance exclusively as some, or the teacher of law exclusively as others, have done. According to this interpretation the poet is not less a poet; the philosopher is less a philosopher. The poetry is not less beautiful: the philosophy is less consistent. That inconsistency need not startle or offend as improbable. Although the ideas both of chance and law existed in the minds of Epicurus and Lucretius, it may be doubted whether the distinction between them was very sharply defined, or their mutual incompatibility very clearly perceived or very strongly felt. It may even be doubted whether in the minds of many thinking persons at the present day where both ideas exist, the distinction between them is sufficiently marked and pronounced, and all confusion and interpenetration rendered impossible by definiteness of conception and earnestness of conviction. It is thus less difficult of apprehension that such a blending of incongruous elements should have existed in the system of Epicurus, and may still be found in the poem of Lucretius. If we had that author at our elbow *in propria persona*, he might possibly be able to clear himself from this apparent inconsistency; but since we have him not, we must be permitted to assume for the

present that it is real as well as apparent. Whether real or only apparent, it is indubitable that, however he might speculate or conjecture respecting the atomic chaos in the unknown and impenetrable depths of the past, he has broadly and distinctly expressed his belief in law, a belief to which he was irresistibly impelled by all the actual phenomena of nature spread before him.

No such doubt can exist respecting the deliberate convictions of Mr. Grote as to the prevalence of law, notwithstanding the passage quoted from his history giving a seeming or inferential support to the existence of chance. Indeed, in the very passage quoted, the history of a nation is expressly considered as a sequence of causes and effects, than which no language can more explicitly recognize law in history. And yet in the very same breath he holds—inconsistently in our judgment, although doubtless not in his own—that history so considered requires us to study not merely real events, but also imminent contingencies, that is, as he himself explains, events which were on the point of occurring and yet did not occur. To our perceptions, *pace tanti viri*, this sounds very much like saying that history, considered as a sequence of causes and effects, requires us to study not merely real events which belong to that sequence, but unreal events which do not belong to it; not merely the actual occurrences of life, but the figments of the imagination; not merely facts but fictions. It is difficult to find in this any thing but the simplest and most direct self-contradiction that can be enunciated. By the terms of the definition of history, those events only which belong to the sequence of

causes and effects are history, and yet according to Mr. Grote history requires us to study events which do not belong to that sequence, and which are unreal, fictitious, imaginary.

The phrase under which he has disguised from himself this self-contradiction is *imminent contingencies, events which were on the point of occurring and yet did not occur*. But contingencies are not events, and events are not contingencies. Events are facts that have occurred, and the term cannot legitimately be applied to projects or speculations that were on the point of occurring and yet did not occur. In a sequence of causes and effects such as Mr. Grote recognizes history to be, it is difficult to perceive how there can be contingencies of any kind, whether imminent, remote, or actual. If actual, then they are no longer contingencies but belong to the series of events, either as causes, or as effects, or as both. If remote or imminent, then they do not belong to the series of events constituting history, and if they possess any importance, they are worthy of consideration, not as suggesting what would have been the consequences, salutary or injurious, if they had occurred, to which they afford no clue, but as proving that there were causes in operation which prevented them from becoming actualities. In the instance which affords occasion for Mr. Grote's remark it does not appear certain that if the imminent contingency described had become actual, such a consequence as he represents would have followed. Amid the endless possible combinations of human events, it is quite conceivable that a Persian invasion of Greece at that period might, as he assumes, have arrested Grecian

development in the bud ; or, as may be supposed by others, it might have introduced a new and valuable element into Grecian civilization, and have given an earlier and more powerful stimulus to its development. Either supposition is purely gratuitous and conjectural. But the fact appears to be that an attempt was made to give this direction to the arms and the ambition of Darius, and that it failed. The failure must have had a cause. The cause may have been the want of confidence on the part of the king or the nobles or the army in the representations of the returned Persian envoys, or disgust at the falsehood and treachery of the Greek emissary, or the greater facilities that existed for invading Scythia, or the greater supposed attractions which that country offered. However the failure of the attempt may be explained, the one important point to be here noted is that it is not the imminent contingency and its possible consequences, but the fact of the attempt, the failure of the attempt, and the causes of that failure, that belong to the province of history. History considered as a sequence of causes and effects can take no account of imminent contingencies and their possible consequences. It has to do only with facts and events and their actual results.

Sir George Lewis is not so explicit as Mr. Grote in acknowledging history as a sequence of causes and effects, and it is not without some show of reason that he is claimed as a believer in chance. Indeed, his entire Treatise on the Methods of Observation and Reasoning in Politics, while it displays extensive and various reading, acute observation and reflection, and a great command of illustrative details, is wanting in that cohesive force and

distinctness of impression which well-defined and clearly expressed principles of political and historical science would give. He seems in that work rather to be one who is searching for methods and principles than one who has found them; and hence each successive division of his work has a fragmentary character, and the whole produces on the mind of the reader only a fragmentary effect. Despite this general defect as well as the special language he has used, quoted in the preceding section, capable of being interpreted in the sense of chance, there are grounds on which this conclusion should be repudiated.

One is, that he explicitly admits progress to be one of the characteristics of human history. Even this admission is made with a certain degree of hesitation, and is accompanied with what appears a singularly unphilosophical qualification. He first seems willing to admit the progressiveness of the human race as a whole; but he checks himself and limits the admission to certain communities of men who are known to have been progressive heretofore, and whom he therefore believes to be capable of progression hereafter. Mankind are thus divisible into two ranks or orders, the progressive and the non-progressive, a distinction which implies different natural capacities, physical, intellectual, and moral, different capabilities, responsibilities, destinies, and in fact constitutes different races. That there are great diversities among the tribes and communities of men is notorious; that some may belong to different radical stocks from others is possible; that in the progress of civilization some have performed a very different part from others is certain; and that some may

be destined to perform a very different part from others in the future is probable. But that there is a difference of natural and inherent capacity and of permanent and ultimate destination, opening to some a progressive career and condemning others to one of stagnation, and thus practically creating two distinct races, this is a conclusion which the mere facts of past progression and past stagnation will not sustain, for those effects may have been produced by the peculiarly favourable or unfavourable circumstances in which the respective divisions of the race have been placed. The earliest civilized inhabitants of the countries of Central Asia might have pronounced the pre-historic tribes of Egypt incapable of progress; those of Egypt might have passed a similar unfavourable judgment on the pre-historic tribes of Greece; those of Greece on the pre-historic tribes of Italy; and those of Italy on the pre-historic tribes of Britain, just as we pronounce such a judgment on the negro tribes of Africa and the Papuas of New Guinea, and all would have been equally mistaken as we probably now are. We voluntarily contract our historical horizon, and deduce conclusions which facts that we refuse to see would refute. Dismissing this notion as untenable, we have still the admission from Sir George Lewis that certain communities of men are progressive. Now progress means a consecutive series of events from bad to good, and from good to better, conformably to some law. If there is progress, there must be not only a capacity of progress, but a determinate direction in which the progress is made, and a law or order according to which

it is made. The admission of progress is then a virtual denial of chance and admission of law.

Another ground is that Sir George Lewis, considering man as a self-civilizing animal, and as such at the top of the animal scale, holds that there is not *in the natural series* any being who can raise him higher by tuition and domestication. It is implied that in the non-natural series there may be such beings or such a being, and it does not seem a forced construction of these words to assume that they refer to the agency which the Divine Being may deem fit to employ for such a purpose. There are grave objections to regarding the Deity and his agency as not being *in the natural series*; as, so to speak, standing apart from and outside of the world he has made and the course of events he controls, just as a watchmaker is distinct from and operates upon a watch, the conception apparently implied in the language employed. But putting aside these objections for the present, the admission of a series, first and directly of a natural series, secondly and indirectly of a non-natural series, is an admission of order, of law, of a succession and concatenation of events as causes and effects. That one of these series is non-natural places it altogether beyond the scope of human reasoning; but since the other series is natural it brings all the phenomena that belong to it under the operation of natural law. A natural series of events in history is a sequence of events connected in some natural order, and according to some natural law.

On both these grounds Sir George Lewis may be

his prepossessions do not permit him to perceive involve its virtual adoption. He was keenly alive to every fancied advantage which his philosophy offered him against theism: he was not on his guard against the opposite danger of chance, into which consequently, with an unconsciousness partly amusing and partly painful, he has rushed headlong. Whatever his inconsistency with himself, the main point here is to satisfy ourselves that the order of nature and life is not inconsistent with itself; that neither does imperfection exist in the physical nor anarchy in the moral world; and that law is paramount in both.

M. Comte has not specified the better arrangement which in his judgment might take the place of the existing order of the elements of the solar system. If such an improved arrangement could be suggested, it would certainly tend to shake our confidence in the existence of law, which, if it exist, must produce a system of perfect order. The general order of nature, however, is so vast, and its details so complicated; our sphere of observation is so limited, our powers so feeble, and our ignorance so great, that when we meet with any thing in that order which appears to us either positively misplaced, or superfluous, or admitting of change for the better, the proper use of such a phenomenon is to deduce from it a lesson rather of humility than of pride, and without weakly or superstitiously admiring what we do not understand, to infer that what is unintelligible to us may possibly sustain relations and subserve purposes which are equally placed beyond our comprehension, but which, if comprehended, would fully vindicate the existing order. This calm and modest self-appre-

ciation is far more nearly akin to the genuine philosophic spirit than the opposite state of mind by which we constitute ourselves judges of the unknown and the inscrutable. If out of the ordinary course a meteoric stone falls to the surface of the earth, as has often happened; if, as has been supposed, a planet has been shattered into fragments forming the asteroids of our system; or if, as M. Comte assumes will occur, our whole system shall hereafter collapse and rush into ruin, we may be assured that these effects have flowed or will flow from the operation of law, although we perceive or anticipate only the result, without being able to trace all the preliminary steps of the process. In assuming the last-mentioned contingency, M. Comte fully admits the operation of law, and he is probably supported in the view he takes by the great body of physicists of the present day, of whom one only is cited, as an example, below.* Whether such a view is well-founded or not,

* "Nous savons en effet que par la seule résistance continue du milieu général, notre monde doit à la longue se réunir inévitablement à la masse solaire d'où il est émané, jusqu'à ce qu'une nouvelle dilatation de cette masse vienne, dans l'immensité des temps futurs, organiser de la même manière un monde nouveau destiné à fournir une carrière analogue."—*Philosophie Positive*, ii. 383.—"The medium which fills universal space, whether it be a luminiferous ether or arise from the indefinite expansion of planetary atmospheres, must retard the bodies which move in it, even though it were 360,000 millions of times more rare than atmospheric air; and, with its time of revolution gradually shortening, the satellite must return to its planet, the planet to its sun, and the sun to its primeval nebula. The fate of our system thus deduced from mechanical laws must be the fate of all others. Motion cannot be perpetuated in a resisting medium; and where there exist disturbing forces, there must be primarily derangement and ultimately ruin."—*North British Review*, Nov., 1844, p. 211. See also the same *Review*, May, 1844, p. 41. This conclusion is inconsistent with the continuity of order in the material, and of progress in the moral, world. From M. Comte's point of view, limiting him to the contemplation of mechanical laws, no other conclusion can be drawn; but if we look beyond them, it does not appear inevitable. It does not belong, however, to this place to estimate the effect upon such a conclusion of the recognition of a Supreme Will and of the principle of compensation which, flowing from that Will, largely enters into the constitution of nature and influences the operation of law. The result of the controversy carried on by Buffon against Euler, d'Alembert, and Clairaut, should inspire some distrust in the confident prediction of a universal catastrophe on the sole ground of the necessary operation of mechanical law. Clairaut on strictly scientific grounds proposed a

it is sufficient for the present purpose to establish that even by the showing of those who believe in such a future universal catastrophe, it can be the product only of law.

On the alleged imperfection of animal organizations it is obvious to reflect that the existence of different orders of animated beings implies a necessary relative imperfection, since each order to be different must be endowed with distinct capacities, organs, and functions from every other; that is, in each case, with capacities, organs, and functions either superior or inferior to those of others. Either this relative imperfection must exist, or the opposite imperfection of an unqualified sameness and monotony among all the sharers of animated existence. This relative imperfection, however, is consistent with the perfect adaptation of each order, and of all its capacities, organs, and functions, to all the other conditions of its being; and there is no sufficient ground for affirming that this perfect adaptation does not actually exist. If animal malformations, cretins, idiots, &c., are to be found, such facts do not prove the absence of law, but rather its presence. They prove that law exists, that in some form or another it has been disobeyed, and that law disobeyed must and does and will vindicate its authority. In no case does law relax its hold.

M. Comte signalizes war as the chief cause by which the march of modern civilization is obstructed and delayed. We might as reasonably complain of storms

modification of the law of gravity. Buffon on strictly philosophic grounds defended the continuity of that law. Clairaut revised and corrected his calculations and abandoned his hypothesis. The continuous operation of mechanical law, it is now alleged, will necessarily lead to the destruction of the existing order of universal nature. The answer, on strictly philosophic grounds, is, that law indeed exists and operates, but that a Lawgiver also exists, who by means of law has maintained, and will maintain, universal order.

obstructing and delaying navigation and commerce. Undoubtedly they do obstruct and delay navigation and commerce and destroy life and property in particular instances, but they also produce important general benefits by the purification of the atmosphere and by the equilibrium which they establish among atmospheric agencies—an equilibrium which when destroyed by other causes is re-established by the same means; and they inflict those particular evils and produce those general benefits in conformity with laws which we cannot always define and trace, but which we are not the less sure really exist. The attempts that have been made to reduce the phenomena of storms to the form of a law constitute some of the most interesting recent additions to meteorological science, and some approach seems thus to have been made to the knowledge that they pursue a definite path, with a definite momentum, and under definite conditions. Wars are the storms of the moral world. Like those of the natural world, they doubtless inflict great evils. They also destroy life and property and waste labour and capital. They exaggerate the destructive propensities, they give a vicious direction to the intellect, they depress the moral elements of character. They interrupt old friendships, they create new enmities. They convulse nations and absorb the means and impede the course of social improvement. But here, too, there is a reverse side of the picture: the general benefits more than counterbalance these special evils. The destructive force which is first developed in the ranks of the army may be applied to the pursuits of industry; the intellect that is cultivated by the science of war may be employed to promote the

arts of peace; and many personal virtues as well as vices, in woman and in man, in the family, in the field, and in the hospital, are brought out in alleviating and sustaining the inevitable evils that arise from national conflicts. It is by means of war that national independence, the source and support of all national excellence, is maintained, tyrannical encroachment punished, despotism restrained, and a fair field secured for social progress. It is largely by the same means in all ages that the different tribes of men have been made to mingle with each other, communicating and receiving mutual benefits, subduing the earth to the purposes of man, and elevating man to a growing perception of the high capacities and destinies of his being. The storms of the natural world proceed from natural causes; those of the moral world from moral causes. But it has been shown that moral causes, that is, free volitions, are just as much subject to law as the movements of physical bodies, and it follows that wars springing from those causes must also be subject to law. To speak of war, therefore, as if it counteracted the operation of law, as M. Comte does, is contrary to the fundamental principle of the positive philosophy. Wars, like storms, correct the excesses in the operation of certain laws, but this is done in obedience to others. In all, law governs.

Socialistic opinions are denounced by M. Comte as having an anarchical tendency, or as exhibiting proofs of an actual and prevailing intellectual anarchy. Such opinions may be false, or they may be true, or they may be partly the one and partly the other. In so far as they are false they express the diseased condition of the individual minds which entertain such false opinions.

In so far as they are true they show the diseased condition of general society which rejects them. But whether they are false or true, they are the natural products of the particular circumstances and influences from which they have originated under the operation of the laws of thought which are common to all men. Anarchy is the absence or negation of government, of rule, of law. But whether intellectual disease resides in individual minds or in the general mind, it does not, any more than physical disease, exempt from the operation of law. When fever burns or ague shakes the frame or even when death resolves it into its constituent elements, there is no anarchy: every step of the process is according to law. In like manner, in the blindest ignorance of rulers or of people, in the wildest opinions of individual minds, in the most rampant excesses of revolutionary times when society itself seems to be dissolved, the eye of the genuine positive philosopher sees no real anarchy. These effects flow naturally and conformably to law from their antecedent causes.

The believer in chance, assuming for the occasion the existence of God, endeavours to show that the popular notion of a Divine Providence is inconsistent with law, and that it is, in fact, a religious version of the doctrine of chance. The inconsistencies of religionists, however, afford no more support to the theory of chance than do those of philosophers, nor do they in any degree tend to lessen our confidence in the universality and stability of law. It is not to be denied that the inconsistencies charged are real. The popular conception of a Divine Providence is that of special interference by special acts for special purposes for or against special individuals.

Nor is it individuals only, but special dynasties, special nationalities, special religions and religious organizations are assumed to be under the special protection of the Almighty; special, inasmuch as similar favour is supposed not to be vouchsafed to other individuals, dynasties, nationalities, religions, and organizations. If this were a just conception of providence, a belief in law might be honestly, it is not apparent how it could be consistently, retained. Law is general in its operation, and admits of no specialties, no exceptions, no favourites. It subjects all to the same authority, exercises over all the same control, warns all by the same sanctions. There can be no relation between invariable law and a variable providence which, it is truly affirmed, is only another name for chance. A variable providence is as inconsistent with theism as with law. If the ideas of a God and a Providence are to be assumed in order to array them against law, then it must be the true, not the false, ideas of a God and a Providence. But the true idea of God is that of a being without variableness or shadow of turning, immutable alike in his nature and in his purposes; and the true idea of the providence that he exercises is that it is as universal and impartial as law. Providence may be conceived as the all-comprehending and all-energizing thought of the divine mind, Law as the derived and defined expression of that thought in all the combinations of phenomenal causes and effects. The expression cannot be more fixed and invariable than the thought: it is the immutability of the thought that gives immutability to the expression. The perfection of the providential will communicates perfection to the phenomenal

laws. The disputant, therefore, merely employs an abusive notion of providence to prove chance and to disprove law, and when the misconception is removed or disclaimed the argument falls to the ground. It deserves on the other hand to be well-considered how narrow is the partition between a belief in chance, the most irrational, the most debasing, and the most subversive form of atheism, and a belief in those special interferences in which a providence is made to consist; and how necessary it is in order to retain an unassailable belief in providence to hold firmly by fixed and invariable law, equally uncompromising in its requisitions and in its rewards and penalties.

One of the modes in which a belief in divine providence manifests itself is that of Worship; for if there is indeed a providential ruler of the universe, the mind that is sincerely impressed with such a conviction will in some form or another reverentially acknowledge so important a truth. Worship is in this view a necessary element of human character; but the forms of thought it assumes are various, and they too often give occasion for the inference that they spring from and express not an essential and eternal truth, but the capricious fancy of a low and feeble and wandering intellect. The Deity for instance is regarded by his worshippers as an arbitrary despot demanding homage and pleased with praise. The notion on the one hand that God claims and exacts worship as a right and that we perform it as a duty, makes it a mere menial service and perverts our relation to Him into that of slaves to their owner or of servants to their master. It prevents or extinguishes all spontaneous emotion; all willing, cheerful, self-forgetting

affection; all elevated, inspiring, ennobling devotion; and from dry and dull and heartless habitude becomes perfunctory and lifeless. The notion on the other hand that worship is literally pleasing to God and the withholding of it displeasing, and that we thus have it in our power by bestowing worship to produce contentment and satisfaction in the divine mind internally, and externally to promote the divine honour and glory, or by refusing worship to displease and to dishonour God, this makes our relation to Him in the act of worship to be that of benefactors to a beneficiary. Such a notion, plainly stated, is at once clearly seen to reverse the entire order of the universe and to subvert the very foundation of all religious principle and sentiment. Its direct effect is to give animation and energy, rapture and exultation, to religious worship; its indirect consequence, to create and foster the most vicious and fatal forms of spiritual pride. Such notions, it need scarcely be said, are the suggestions of ignorance and the fabrications of folly; yet it is not denied that they fulfil certain ends. They are the highest notions on such a subject that minds in certain stages of culture can assimilate, and they help to carry such minds still higher. The time at last arrives when the spirit of man emerges from them and casts them off like worn and soiled garments, perceiving that genuine religious worship is neither to perform a service to, nor to bestow a benefit upon, the Creator, but with absorbing awe and love and trust to bring the mind into union and communion with its Infinite Source and its Sustaining Life. The external aids that may be employed for this purpose are all nature and all life; the heavens above and the earth beneath;

science, philosophy, and art; architecture, statuary, painting, and music; ritual observance and verbal utterance. In the use of all or of any of these aids, the internal means that must be employed are calm and self-possessed meditation, contemplation, reflection in the deep silence of the tongue and in the deeper solitude of the heart. The result will be to harmonize the moral feelings of the mind and the moral acts of the life with the eternal and beneficent laws of the divine government. The admission of chance under any aspect into the notion of religious worship vitiates its character and destroys its moral effectiveness; while it is purified, invigorated, and dignified in proportion as it is made to consist in moral likeness to a Perfect and Immutable Being, and in moral conformity to His wise and holy, just and good laws.

Prayer is distinguishable from worship inasmuch as it presents the devotee in the attitude of a petitioner, a solicitor of some real or supposed, present or future, personal or relative, material or spiritual benefit. It seems to be included in the meaning of a petition that it brings a request to the notice of him to whom it is addressed; that it may be either conceded or refused; and that the considerations it suggests may contribute to its success. Hence the minuteness, the repetition, and the urgency in liturgical services. Hence the popular conception that God hears some prayers and does not hear others; grants some petitions and denies others. And hence the common saying in certain religious circles that sincere prayer *moves the hand that moves the world*.* This shows that prayer is generally

* M. Dupanloup, the present Bishop of Orleans, and the most illustrious

supposed to work an effect upon the divine mind which would not otherwise be produced, and that in fact the petitioner believes that he sways God to his own purposes and employs Him as an instrument for their accomplishment. This in conception at least takes the government of the world out of the hands of God, places it in the hands of man, and throws us back into all the vicissitudes of uncertain human volitions, into confusion, chaos, and chance. It is not enough to say that such a notion of prayer leads to atheism: it is practical atheism under a religious guise. The mere statement of it is sufficient to establish its fallacy. Is there, then, no moral significance or power in prayer? There are both the one and the other. The meaning of prayer is that we are subject beings, living in daily, hourly, momentary dependence upon God, and amenable to the laws which are the expressions to us of his nature and will; the moral efficacy of prayer is that it recognizes that dependence and that this recognition helps to bring our minds into a state of cheerful acquiescence in the will of God and of intelligent obedience to His laws. The effect of prayer is not upon God but upon ourselves. It does not inform Him of wants of which he would else remain ignorant. It does not dispose Him to grant favours that would otherwise be withheld. It does not incite Him to action when he would otherwise be quiescent. Even the effect upon ourselves is

among his episcopal brethren, has expressed the opinion, quoted by M. Montalambert in his work on the *Monks of the West* (i. 44), that "prayer equals and surpasses sometimes the power of God. It triumphs over His will, His wrath, and even over His justice;" and Mr. Ruskin (*Modern Painters*, iv. 87) describes the only conception of God which for us can be true as that of "a being to be walked with and reasoned with; to be moved by our entreaties, angered by our rebellion, alienated by our coldness, pleased by our love, and glorified by our labour."

not directly contemplated, for if it were this would transform prayer to a mere moral mechanism in no degree superior in principle to the wheels of the Tibetan Buddhists and to the rosaries of Romish Christians by which prayers are numbered and valued. Prayer, divested of all formulistic notions and mechanical appliances, is the natural and spontaneous effusion from the depths of the human heart of its earnest aspirations after a deeper insight into divine law, a nearer moral assimilation to the divine image, a more intimate communion with the divine spirit of all truth and of all good. Whenever from the inmost recesses of the soul we ask for that which is conformable to the laws of the divine government, the moral disposition from which such a prayer proceeds is itself by anticipation and by confirmation its all-sufficient answer. He that asketh receiveth: he that seeketh findeth. The answer to prayer is thus not the contravention but the fulfilment of law. All prayers to turn back the laws of the universe for our benefit, all prayers to draw forth the thunderbolts of the Almighty against our enemies or against the enemies of our creed or of our country, all prayers thanking the merciful ruler of all for the success of crime, injustice, and oppression, are solemn mockeries and daring impieties which offend and alienate the genuine spirit of religion.

It thus appears that the fundamental conceptions belonging to what is commonly called Natural Religion and expressed by the words providence, worship, and prayer, do not contain any implication of chance, but on the contrary, justly viewed, presuppose and demand the existence of law as fixed and invariable as its as-

sumed source. Let us now consider whether the fundamental conceptions belonging to what is commonly called Revealed Religion are not, when rightly apprehended, equally free from all fortuitous taint and equally based upon fixed and invariable law.

The primary conception of Revelation itself may seem to furnish an argument for chance and against law. The accepted sense of divine revelation is a culmination of the popular notion of a divine providence. Revelation is a divine interference in human affairs on a grand scale out of the ordinary course of human events and above the ordinary operation of causes and effects; and the object is the communication of important truths for the present guidance and the future salvation of mankind. Such an extraordinary interposition is inconsistent with law and is naturally resolved into chance. ~~The supposition is that law is~~ transcended by the author of law; that in the divine mind there is a change from one purpose to another; that at one period God governs the world by ordinary means and at another period finds it requisite to carry out his designs by extraordinary expedients—a supposition which overthrows law from its very foundation and plunges the world into the vortex of chance. How can such a change take place in the Immutable Being? If it does, what becomes of the permanence of law? And if there is no permanent law, how can we escape from the fearful alternative of chance? The answer is, that the fundamental conception of Revelation is complicated and corrupted by the forced union with it of foreign and incompatible notions. Assuming that there is a God—which in this argument the believer in chance

does, in order to disprove it—the mere idea of such a being in our minds is a Revelation of Himself to us. Whatever the modes in which it has been reached, and whatever the imperfections which must always cling to it in our minds, the fact is not altered that the possession of the idea is a substantive Divine Revelation. To some it may appear intuitive, to others rational ; if rational, to some it may be a deduction from the constitution of our own nature, to others from the constitution of external nature, and to a third class from the nature of necessary truth. The lowest form of the idea will be imperfect when compared with the highest and the highest will be found imperfect when compared with the reality, for all the ideas of the infinite by finite minds are necessarily imperfect and they differ from each other only in degrees of imperfection, the degree of imperfection corresponding with the natural and acquired capacities of the mind in which the idea resides. But however derived and however imperfect, the idea of God in the human mind is a Revelation of God. The same may be affirmed of every other true idea ; for instance, the idea of right or intellectual truth and the idea of duty or moral obligation. These, too, are Revelations, that is, manifestations of divine truth to the human mind. There is nothing here inconsistent with law, for each truth is supposed to have been attained under the established operation of divine law, in the natural use of the human faculties, and in the ordinary progress of human society. Let us now suppose that, according to the eternal prevision of the Omniscient Mind, the time has arrived when some new and great, important and necessary truth, additional to

those already possessed by mankind, is to penetrate individual minds, permeate society, mould character, and purify, stimulate, and exalt human motives and aspirations, where is the need for assuming that in the mode of communication law will be superseded, contravened, and abolished? Such an assumption is contradicted *a priori* by reason which teaches us to expect uniformity, and *a posteriori* by experience which exhibits uniformity. It is therefore wholly gratuitous, unless it can be established by direct, positive, and overwhelming evidence; and in that case it is, as has been shown, self-destructive, invalidating the essential truth on which it rests, the being of a God, and confirming the fundamental error to which it is opposed, the doctrine of chance. We may not be always able to trace the ways of God, but in seeking to comprehend them we should beware of ascribing to Him, even by the remotest implication, the change of his own purposes or the violation of his own laws. The fact of the supposed Revelation, its moral value, and its salutary effects may be undisputed and indisputable, and yet the mode of its communication may be in perfect consonance with fixed and invariable law. The operation of that law may be complex, mysterious, and even seemingly exceptional, but if there is a God we cannot do other than conceive of Him as always the same and everywhere consistent with Himself.

We arrive at a similar conclusion when we analyze the collateral conception expressed by the word Inspiration. Inspiration is the influence of mind upon mind: divine inspiration is the influence of the divine mind upon the human. To deny divine inspiration is to

deny that the infinite source of all mind can and does influence the finite minds which he has endowed with the capacity of thought. Much less untenable would it be to deny the patent fact of daily life, the influence of finite minds upon each other, the inspiration which the artist, the poet, the preacher, the orator, the statesman, the patriot breathe into the souls of men. Can man inspire man? And shall we deny to the Creator the power of inspiring his own creature? The prevailing notions on this subject require not to be contracted, but to be expanded and enlarged. No true, no holy thought can enter the mind which is not an effluence from the great fountain of all truth and of all goodness, and it is just in proportion as man opens his heart to such heavenly influences, cherishes them, and lives on them, that he is inspired of God. Divine inspiration is thus co-extensive with all the truth and all the goodness in the world, and this consideration alone is sufficient to establish that it is communicated, not in contravention of the laws of thought, but in accordance with those laws. The degrees of inspiration and the nature of the truths acquired create no real difficulty. There are doubtless different degrees of intellectual illumination and of moral goodness, and there are different degrees of importance to be attached to the truths that form the groundwork of our knowledge and conduct. To some God appears to have given his spirit without measure: to others he gives it in more scanty proportions. Some he employs as the instruments for communicating to the world the knowledge of mechanical and industrial truths; others, of scientific and philosophic truths; and others, of religious and spiritual truths. All are necessary in

their respective spheres to carry forward the world in its destined career, and all illustrate the variety which prevails in the world of mind not less than in the world of matter. But there is no just ground for supposing that in one case more than in another inspiration is bestowed in a mode unconformable to law. To suppose that those who have been pre-eminently gifted with the spirit of God, who have exhibited in their characters unparalleled moral excellence, or who have promulgated peculiarly important truths, received the communications that enriched and strengthened their souls in some direct, immediate, and extraordinary way irrespective of law, is to suppose them emancipated from the operation of law ; it is to suppose God disregarding the laws which are the expressions of his own will ; it is to suppose Him adopting one mode of operation, and then, finding that ineffectual, another, one for ordinary purposes, another for extraordinary occasions ; and it is thus to introduce change into the divine mind and chance into human affairs. Let the extraordinary measure of divine inspiration be fully admitted, the extraordinary importance of the truths taught, and the extraordinary dignity of the character formed under this influence, still the mode of communication, whether comprehensible or incomprehensible by us, must be regarded as subordinate to law. It is only by considering the most highly endowed apostles and prophets, seers and sages, in their most exalted inspirations, not less than the most ignorant of mankind in their humbler aspirations, as still subject to law, that we can make good our ground against the allegations of chance. It is in the fatal inconsistencies, practical and specula-

tive, philosophical and religious, of professed theists and positivists that that doctrine finds its strongest supports.*

Prophecy or the foretelling of future events, in reference to the question between chance and law, may be considered from two distinct points of view. In as far as the mode of communication is concerned Prophecy is identical with Inspiration, and the remarks of the preceding paragraph are applicable to it. In as far as the matter of the communication is concerned, Prophecy is identical with Miracle which will be examined in the next paragraph. Little, therefore, needs to be said under this head. How far the human mind under the operation of divine law can penetrate into the future, it would be difficult to say—farther probably than is often supposed, and all the farther in proportion to the combined culture of the intellectual and moral faculties, and the consequent clearness of the intellectual and moral vision; but at the most such penetration can embrace only general results, not the means by which they are reached or the details of which they consist. It would be easy at the present day to predict events which must happen in the four quarters of the globe in some future age; but it is beyond all known human capacity to fix the dates of accomplishment, to trace the future sequences of cause

* "Greatness in art—is not a teachable nor gainable thing, but *the expression of the mind of a God-made great man*; teach or preach or labour as you will, everlasting difference is set between one man's capacity and another's; and this God-given supremacy is the priceless thing, always just as rare in the world at one time as another. . . . And for this God-made supremacy I generally have used and shall continue to use the word Inspiration, not carelessly nor lightly, but in all logical calmness and perfect reverence. . . . As for this one commodity of high mental supremacy—there is no other right word for it but this of Inspiration."—Ruskin's *Modern Painters*, iii. 147.

and effect, and to fill up the outline of the picture. However much or however little can be thus foreseen, it may be confidently affirmed that all such predictions, whether general or particular, whether bearing on the political or the religious history of the world, can have no other foundation than the immutable divine laws by which all the movements of society are governed.

The vexed question of Miracle comes next to be considered from the point of view which the contending theories of chance and law present. A miracle is an alleged event not only above all known human power, but above all known natural, that is, divine law. In the case of any alleged event disputed or disputable, the first inquiry clearly is, Did the event really occur? a question which should be determined by the evidence appropriate to such an occurrence, apart from all interpretation that may be put upon the occurrence itself and from all consideration of the use to which it may be applied. This is the first and the indispensable step preliminary to every other stage of the investigation. Any previous affirmation of the possibility or impossibility, the probability or improbability, the credibility or incredibility of the alleged event is wholly irrelevant, and would only show that the case has already been prejudged independently of evidence. If there is no evidence, or no sufficient evidence, of the actual occurrence of the alleged event, the question falls to the ground and no other step is necessary. If it is ascertained by adequate evidence that the alleged event really occurred, the next inquiry is, Can it be classed with any similar phenomena under any known law?

What at first sight may appear to us strange and unaccountable, mysterious, miraculous, may be only a new form of an old and known law. Thus Sir John Herschel speaks of the replacement of extinct species by others which geology makes known, as a "mystery of mysteries," and yet he is disposed to ascribe it to the operation of intermediate causes and of a natural process.* Even when, as in this case, the intermediate causes cannot be assigned and no indications are perceived of any process actually in progress which is likely to issue in such a result, yet the mind of the philosopher on the ground of analogy retains the belief in law and will not let it go. Hence when the evidence of the actual occurrence of the alleged event is convincing, when the event cannot be classed under any known law, and when the mind is thus placed in a state of imperfect knowledge, holding the particular fact but unable to generalize or utilize it, a third inquiry may arise. Is it not possible or probable that in some future stage of human knowledge, the event in question may be found reducible to law? Mr. Babbage has shown that the deviation from a known law may be the fulfilment of a law more comprehensive, but previously unknown;† and the effect

* Speaking of that "mystery of mysteries, the replacement of extinct species by others," Sir John says, that "we are led by all analogy to suppose that He (the Creator) operates through a series of intermediate causes, and that in consequence the origination of fresh species, could it ever come under our cognizance, would be found to be a natural, in contradistinction to a miraculous, process—although we perceive no indications of any process actually in progress which is likely to issue in such a result."—Letter to Mr. Lyell, dated Feldhausen, Cape of Good Hope, February 20, 1836, contained in Mr. Babbage's Ninth Bridgewater Treatise, 2nd ed. App. note 1, p. 225.

† See Ninth Bridgewater Treatise, 2nd ed. chapter ii. pp. 30-49, and chapter viii. p. 92, where he summarily says: "It is more consistent with the attributes of the Deity to look upon miracles not as deviations from the laws

of this in the given case would be not to impugn the reality of the alleged event, but to take it out of the category of miracle and to bring it within the pale of divine law. It is evident that in these successive inquiries, first, Did the event really occur?—second, Can it be classed with any similar phenomena under any known law?—and third, May it not hereafter be found reducible to law?—the appeal is, first and last, to law; first to the law of evidence which determines the fact, and next to law known or unknown under which to classify it. In no stage of the investigation is there room for chance or for the allegation of it. If miracle is denied, it must be denied either because the evidence does not satisfy the laws of human thought or because the event, when proved, cannot be classed with any known, probable, or possible law. If miracle is affirmed, it must be affirmed because the evidence adduced for its occurrence does satisfy the laws of human thought and because it can be classed with some known, probable, or possible law. If all subordination of miracle to law is abjured, then it is *ipso facto* disproved. The supposition of its truth would in that case make it a change, an innovation, a revolution in the principles of the divine government of the world which must be held to be an impossibility while that government is acknowledged to be in the hands of a Perfect and Immutable Being. Just in proportion as the unbeliever finds it difficult to establish that miracle is irreconcilable with law will be the caution and modesty with

assigned by the Almighty for the government of matter and of mind; but as the exact fulfilment of much more extensive laws than those we suppose to exist."

which he rejects it. And just in proportion as the believer finds it difficult to establish that miracle is consistent with law, will be the charity and forbearance which he exercises towards those who have less belief than himself. But whatever the result may be, belief or unbelief, the affirmation or the denial of miracle, law unchanging and unchangeable must be maintained, since without a belief in law we must fall back into the dark abyss of atheistic chance.

In the same manner as objections have been advanced against revelation, inspiration, prophecy, and miracle as being inconsistent with the stable operation of law, so the successive dispensations of revealed religion which may be described as the Adamic, the Patriarchal, the Jewish, and the Christian, have been represented as expressions, not of divine law, but of human caprice. This however is a very superficial estimate of those comprehensive series of historical events. In all of them without doubt, as in all human history, there has been mingled much ignorance and superstition, much violence and vice and crime emanating from the narrowness of the human understanding and from the aberrations of the human will; but, philosophically considered, no other consistent interpretation can be put upon them than as great and consecutive movements of human thought and of social life in obedience to law. Where the objector sees only expedients to meet sudden and unexpected contingencies, others see the gradual development of a comprehensive and beneficent design for the education of the successive generations of the human race and for their ultimate attainment of a high order of physical happiness, intellectual

power, and moral dignity. Where he sees only a fitful and fortuitous struggle between human truth and error, human wisdom and folly, others see a progression of events from a darkness deeper and deeper as it recedes into the depths of antiquity, to a light, not without varying undulations, but which, as it advances, steadily and signally increases in intensity and power and salutary influence. Where he sees only a confused commingling of elements, a congeries of thought, of action, and of passion, throughout long series of ages in which effect might have taken the place of cause and cause of effect and yet the result would have been identical, others see a coherent unfolding and a rigorous interdependence of events from which no stage can be omitted and in which no stage can be displaced without injuring the order and unity of the whole.

Let us suppose for instance that the series of events which we call the Jewish dispensation had not been interposed between the two adjoining series which we call the Patriarchal and the Christian, and had been entirely dropped from the sequence; or that the series of events which we call the Patriarchal dispensation had not been interposed between the two adjoining series which we call the Adamic and Jewish and had in like manner been entirely dropped from the sequence: Or let us suppose, without any omission, that the series of events which we call the Christian dispensation had immediately succeeded the series of events which we call the Adamic; or that the series of events which we call the Jewish dispensation had preceded the series which we call the Patriarchal, all the other sequences remaining the same. In each and in all of those sup-

posed cases the mind is instantly struck with a sense of incongruity, a want of adaptation, a violation of historical probability, a breach of the law of historical progress. The actual succession as exhibited in the record is precisely that which is demanded by the natural and necessary operation of law in the history of human thought and society. We have thus in the records of these successive series of events which are called dispensations of revealed religion — records which constitute those of the Jewish and Christian religions—that which will be in vain sought in the records of any other religion whatsoever, a summary of universal history embracing at once a sound theory of historical science and a practical illustration of its fundamental principles in conformity with the universal law of historical development.

It is obvious to remark that in the consideration of the objections immediately preceding supposed to be advanced by the believer in chance against the theory of law, the existence of God and the truth of revelation have been assumed only because in the objections themselves such assumptions are made. It has been no part of the object of this section to prove either, but solely to establish the pervading reality and authority of law. The believer in chance virtually says, Let it be admitted for the present argument that there is a God and that he has made a supernatural revelation of his will, then, according to the showing of theists themselves, the meanings which they express by the words providence and revelation and by the related terms are consistent only with the theory of

chance, making God a mutable being and man the sport of his changing purposes, and thus affirming the doctrine of chance which they verbally deny and overthrowing the doctrine of law which they verbally maintain. It must be acknowledged that if the common notions of providence, worship, and prayer, revelation, inspiration, prophecy, and miracle are maintained, this argument is well founded and the whole structure of religion is shaken to its foundations. At least the present writer sees no way of escape from such a conclusion. But if the common notions are not maintained, if divine law is perceived and recognized in providence and revelation and in their derivative conceptions, as in all the other works and ways of God, then chance loses the vantage-ground which on the former supposition it possesses and a firm foundation is laid for all the doctrines of religion which can be shown to be consistent with law. Deny law, and you unsettle belief in the first principle of all religion. Admit law, everywhere, always, in nature, in providence, in revelation, then only can you effectually rebut all the arguments in favour of chance.

After this, perhaps too extended, notice of the special aspects of the question between chance and law, the following brief summary of the whole argument may help to supply a resting-place to the mind. When chance is affirmed, what is really affirmed is that there is no causation. When law is affirmed, what is really affirmed is that there is causation. In affirming or in denying causation, what is it that is affirmed or denied? It is affirmed or denied that there is a constant

connection between cause and effect. Now without being drawn into the metaphysics of causation, the inquiry is limited here to the simple fact whether there are or are not such conceptions in our minds as those of cause and effect, and whether there are or are not in nature and life agencies and results corresponding with those conceptions. He that denies that there are, is a believer in chance. He that affirms that there are, is a believer in law. When the question is thus presented, it is scarcely credible that any one who understands the terms he employs would deny causation and thereby affirm chance. Under the influence of popular misconceptions few might be able consistently to carry out the belief in all its connections and ramifications, but all probably without exception would in principle affirm causation and thereby affirm law. We cannot think a thought or speak a word, we cannot lift a hand or walk a step without proving the connection between cause and effect. When the connection between cause and effect is proved, the existence of law is proved and the doctrine of chance is disproved. And when chance is disproved and law proved a basis is found for true science, for positive philosophy, for religious truth, for moral obligation, and for consecutive history.

In the sublime language of Hooker, unequalled for the solemn impressiveness of its philosophic and Christian piety, "Of Law there can be no less acknowledged than that her seat is the bosom of God, her voice the harmony of the world; all things in heaven and earth do her homage, the very least as feeling her care, and the greatest as not exempted from her power; both

angels and men and creatures of what condition soever, though each in different sort and manner, yet all with uniform consent, admiring her as the mother of their peace and joy.”*

To this may be appropriately subjoined Cicero’s description of Law, the same and yet different; the same in the divinity of its origin, the universality of its extent, and the beneficence of its operation; and yet different because brought down, as it were, from heaven to earth, and conceived and represented as specially transfusing itself through all human life, governing all human relations, transcending all human laws, explaining its own meaning, enforcing its own sanctions, indestructible and irrevocable amid all the changes of time and of place:—“*Est quidem vera lex, recta ratio, naturæ congruens, diffusa in omnes, constans, sempiterna, quæ vocet ad officium jubendo, vetando a fraude deterreat, quæ tamen neque probos frustra jubet aut vetat, nec improbos jubendo aut vetando movet. Huic legi nec obrogari fas est, neque derogari ex hac aliquid licet, neque tota abrogari potest. Nec vero aut per senatum aut per populum solvi hæc lege possumus. Neque est quærendus explanator aut interpret ejus alius. Nec erit alia lex Romæ, alia Athenis; alia nunc, alia posthac; sed et omnes gentes et omni tempore una lex et sempiterna et immutabilis continebit; unusque erit communis quasi magister et imperator omnium Deus, ille legis hujus inventor, disceptator, lator; cui qui non parebit, ipse se fugiet, ac naturam hominis aspernatus*

* Ecclesiastical Polity, i. 16.

hoc ipso luet maximas pœnas, etiam si cœtera supplicia quæ putantur effugerit."^{*}

* Lactantius, Div. Instit. vi. 8. Compare Ciceronis de Republicâ quæ supersunt, edente Angelo Maio, Romæ, 1823, iii. 22. Compare, also, Cicero de Legibus, which breathes throughout the same elevated conception of natural and moral law; especially i. 6 and ii. 4. Lactantius alone has preserved the noble passage cited above from the treatise de Republicâ; and he introduces the quotation in his own work with the following remarkable words: "Susci- pienda igitur Dei lex est, quæ nos ad hoc iter dirigat: illa sancta, illa celestis, quam Marcus Tullius in libro de Republicâ tertio *pene divinâ voce depinxit*; cujus ego, ne plura dicerem, verba subjeci." Scarcely less remarkable is the language in which he comments on the quotation he has made: "Quis sacra- mentum Dei sciens tam significanter enarrare legem Dei posset quam illam homo longè a veritatis notitiâ remotus expressit? Ego vero eos qui vera im- prudentes loquuntur sic habendos puto *tanquam divinent spiritu aliquo instincti*. Quod si, ut legis sanctæ vim rationemque perdidit, ita illud quoque scisset aut explicasset in quibus præceptis lex ipsa consisteret, *non philosophi sanctus fuisset officio, sed propheta*. Quod quis facere ille non poterat, nobis faciendum est quibus ipsa lex tradita est ab illo uno magistro et imperatore omnium Deo."

SECTION III.

The Theory of Will.

THE conclusion at which we have arrived is that there is nothing in life and history which can justly be called chance, and that however obscure may be the connection of events and however imperfect our knowledge of their sequences, they are all linked together in the indissoluble bonds of law, that is, in a mutual interdependence of cause and effect. Here arises a new question, the precise bearing of which must be carefully discriminated. In the preceding sections, the question was between chance and law: Do events happen without connection? Or, Do they occur consecutively? If events happen without connection, no other question remains to be solved, no other question can be raised. In knowing this we know all that can be known; nothing remains to be known. Let it be taken for granted that chance is proved and there is thenceforth no question between chance and any other theory of the universe. Science, philosophy, history, theism, all are disproved by the proof of chance. But they are not disproved by the proof of law. On the contrary, by the proof of law, a foundation is laid on which alone

they can all be securely built. If events occur consecutively, that is, according to law, then one of the first questions that arise is this: Is law the highest conception of the human mind, the sole bond of the universe, the ultimate source to which its phenomena can be traced? Or, Is there a higher conception, an ulterior source, an intelligent will presiding over the universe and expressing itself by law? This is the question, not between chance and law, which is here assumed to be settled in favour of the latter, but between law and theism; and it is to be carefully noted that while in the former case the two theories mutually negative each other, in the latter this mutual negation does not take place. There are those who deny that there is any thing above law, and there are those who affirm a supreme source of law. But the former in proving law do not as they sometimes assume disprove theism: they only disprove chance. The latter, while they are as strenuous assertors of law as the anti-theistic advocates of law themselves, further hold that law is not the final form of human thought, but that it is on the contrary the utterance of an intelligent will. Let it be understood then once for all that in the judgment of theists there is no incompatibility between law and theism. Such an incompatibility the anti-theistic advocates of law are at liberty to attempt to establish; but it is to be proved not assumed, and until proved it is not to be taken for granted. Theists do not place the belief in an intelligent will of which law is the expression in opposition to a belief in law, but they combine the one with the other, and hold both to be necessary and mutually complementary.

This great question whether there is a supreme will expressed in law has been investigated by mankind in all nations and in all ages, and it has been attempted to be proved and to be disproved by every variety of argument. ⁽¹⁾According to one argument in its favour the existence of a supreme will is an induction from the proofs of design. ⁽²⁾According to another argument, it is a deduction from necessary truth. ⁽³⁾According to a third argument, it is a conclusion from the constitution of human nature. Those who appreciate the force of one of these arguments are prone to undervalue the others, overlooking that each is adapted to a special state of the mind, and that what in one stage of culture carries, and is adapted to carry, conviction, in another stage is wholly inadequate to that end. Without pausing now to illustrate this at length, let it be remarked on the one hand that there is here a recognition of the validity in appropriate circumstances of each form of the argument, and on the other hand that the purpose of the present inquiry does not require the employment of any of them in vindication of the great truth in question. That purpose is not to enter into a direct and formal argument in proof of the existence of a supreme will, but to examine the chief considerations that have been urged against that truth by the most distinguished teachers of the anti-theistic positive philosophy. The opponents of theism are believers either in chance or in law. The theory of chance has been brought under review and has been found wholly unequal to the explanation of actual phenomena. Law as opposed to chance has been incontrovertibly established. Law as opposed to theism is now to be investigated. The

special objections of the positive philosophy to theism are various, and will be separately discussed; but the view which is most comprehensive and most prominent, forming the groundwork of the entire reasoning of this school against theism, is the explanation offered of the historical origin of the idea of God in the human mind from which its fallacy is inferred. It is now proposed to estimate this explanation, and to show, first, that, admitting its correctness, it possesses no real value as an argument against theism; and second, that it not only does not disprove theism, but that it contains the germs of what may be called a historical argument of the most positive character in favour of theism, corroborating in the successive stages of its development the *à posteriori*, the *à priori*, and the *moral* arguments that have been directly and formally employed in its support. From the armoury of anti-theistic positivism a weapon is thus drawn for the defence of the great central verity which it assails, and of which a genuine positivism will thus be shown to be the firm support.

M. Auguste Comte's work already referred to (p. 30) is the principal exposition which the present century has produced of the theory of law in avowed antagonism to the theory of will. But before examining his account of the genesis of the assumed fictitious idea of God it is impossible to avoid adverting to the tone which he has thought proper to introduce into the whole of this subject. It might have been supposed that the slightest allusion to such a topic as that of a Supreme and Universal Ruler, His being, His providence, and His purposes, much more an argumentative discussion of it, would from the combined sublimity

and obscurity of the conceptions it involves have inspired and maintained a certain measure of modesty, of dispassionateness, of self-restraint in the mind and language even of an opponent. In the consideration of any disputed question, there is an undeniable connection between the moral state of the thinker's mind and the clearness, the depth, and the comprehensiveness of his intellectual perceptions; and in the consideration of that now before us, M. Comte must be pronounced to have approached it in a contemptuous, irreverent, and unphilosophical spirit.

It has already been shown that he repudiates the admiration that is expressed by theists of the general order of the heavenly bodies and of the special organization of animals, both of which he thinks might be improved. In like manner he ridicules the pretended wisdom of nature in the structure of the eye, and particularly in regard to the office of the crystalline humour; holds that the principal effect of the urinary bladder in the superior animals, and especially in man, certainly consists in often causing a great number of incurable maladies; alleges the general result of pathological analysis to be that the disturbing action of every organ upon the whole of the economy is very far from being always exactly compensated by its real utility in the normal state; affirms that in most of the actual arrangements we should in vain seek for proofs of a sagacity really superior, or even only equal, to human sagacity; and winds up by saying that in biology scientific genius is sufficiently developed and emancipated to enable us directly to conceive organizations that differ from all those with which we are acquainted, and that would be

incontestably superior to them without the ameliorations being counterbalanced by equivalent imperfections.* In another passage he returns to these notions and dwells upon them with a kind of parental fondness, affirming that the most prominent characteristic of the general mechanism of animal movements consists in the excessive complication of the ordinary apparatus; that geometricians and physicists might easily imagine a much better constitution; that the real mode of production is almost always very inferior to the ideal type that our feeble understanding could create; and that a mechanical constitution could be easily conceived so perfect that a single motor power, the heart for instance, in aid of the suitable apparatus, should preside at once over all the various organic and animal motions, such as our in-

* "On peut à ce sujet indiquer, comme un exemple frappant de cette absurde disposition, la puérile affectation de certains philosophes à vanter la prétendue sagesse de la nature dans la structure de l'œil, particulièrement en ce qui concerne le rôle de cristallin, dont ils sont allés jusqu'à admirer l'inutilité fondamentale, comme s'il pouvait y avoir beaucoup de sagesse à introduire aussi intempestivement une pièce qui n'est point indispensable au phénomène et qui néanmoins devient en certains cas capable de l'empêcher entièrement. Il serait aisé d'en dire autant d'une foule d'autres particularités organiques; et entre autres de la vessie urinaire qui, envisagée comme un simple récipient de l'appareil dépurateur, n'a sans doute qu'une importance très secondaire et dont la principale influence dans les animaux supérieurs et surtout dans l'homme consiste certainement à déterminer souvent un grand nombre de maladies incurables. En général, l'analyse pathologique ne démontre que trop clairement que l'action perturbatrice de chaque organe sur l'ensemble de l'économie est fort loin d'être toujours exactement compensée par son utilité réelle dans l'état normal. Si entre certaines limites tout est nécessairement disposé de manière à pouvoir être, on chercherait néanmoins vainement, dans la plupart des arrangements effectifs, des preuves d'une sagesse réellement supérieure, ou même seulement égale, à la sagesse humaine." — "Quoique notre imagination reste nécessairement circonscrite en tous genres dans la seule sphère de nos observations effectives, et que par suite il nous soit surtout impossible d'imaginer des organismes radicalement nouveaux, on ne saurait douter néanmoins, ce me semble, que le génie scientifique ne soit aujourd'hui, même en biologie, assez développé et assez émancipé pour qui nous puissions directement concevoir, d'après l'ensemble de nos lois biologiques, des organisations qui diffèrent notablement de toutes celles que nous connaissons, et qui leur seraient incontestablement supérieures sous tel point de vue déterminé, sans que ces améliorations fussent inévitablement compensées, à d'autres égards, par des imperfections équivalentes." *Philosophie Positive*, iii. 462, 463.

dustry so often produces in well-organized mechanisms.*

It does not belong to this inquiry to enter into the special questions which M. Comte thus presents; and the more general problem may also for the present be reserved whether a sound positive philosophy permits him to imagine a world of his own different from the actual world, and a human constitution of his own which would not be human, and to reason from these visionary creations in proof of his own superior sagacity; or whether it does not rather require him to accept the actual world and the actual human constitution as he finds them, and

* "On pourrait aisément concevoir une constitution mécanique assez parfaite pour qu'un moteur unique, le cœur ou tout autre muscle, présidât à la fois, à l'aide d'appareils convenables, à tous les divers mouvemens organiques et animaux, comme notre industrie la produit si souvent dans les mécanismes bien organisés."—"Les plus simples notions de la mécanique animale étant ainsi obscurcies et même viciées dès leur première origine, on ne saurait être surpris que les physiologistes disputent encore sur le vrai mécanisme de la circulation, et sur celui de la plupart des modes de locomotion extérieure, tels que le saut, le vol, surtout, la natation, etc. D'après la manière dont ils procèdent, ils ne sont pas près de s'entendre, et les opinions les plus opposées trouveraient encore long-temps des moyens d'argumentation également plausibles. Ce qu'il y a de plus étrange, du moins en apparence, quoique la saine philosophie l'explique aisément, c'est la disposition presque universelle des physiologistes, sous ce rapport, à tirer de leur ignorance même autant de motifs d'admirer la profonde sagesse d'un mécanisme qu'ils déclarent préalablement ne pouvoir comprendre. Une telle tendance est un reste évident de l'influence théologique qui préside encore essentiellement à notre première éducation. Quoique l'étude positive de ce sujet soit, comme on voit, tout entière à refondre, une première vue mathématique de l'ensemble de la question montre clairement, ce me semble, que le caractère le plus prononcé du mécanisme général des mouvemens animaux consiste au contraire dans l'excessive complication des appareils ordinaires. Les géomètres et les physiciens, en les supposant placés au point de vue convenable et d'ailleurs suffisamment préparés, imagineraient sans doute aisément une constitution beaucoup meilleure, s'ils osaient aujourd'hui prendre pour sujet d'exercice intellectuel la conception directe d'un nouveau mécanisme animal, ce qui ne serait peut-être point sans une véritable utilité, ne fût-ce qu'afin de mieux caractériser l'esprit philosophique qui doit présider aux études effectives. Dans cet ordre de fonctions animales aussi bien que dans tout autre, et plus clairement qu'envers aucun autre, l'organisme ne saurait manquer de nous offrir un mode quelconque de production capable de déterminer les actes que nous voyons effectivement se produire; mais le mode réel est presque toujours très inférieur au type idéal que notre faible intelligence pourrait créer, même d'après nos connaissances actuelles, avec la liberté convenable." *Philosophie Positive*, iii. 727-730.



to make the best of both in the study of their structure and their laws. But considering the theological influence to which he ascribes the ignorant admiration he condemns, it is appropriate to this place to suggest for reflection whether the habit of mind which these vain and fanciful speculations express is not hostile to the true investigation of nature and to the successful unveiling of her mysteries. By indulging in them and by cherishing the mental bias from which they proceed, it may well be judged that M. Comte has unconsciously obscured his intellectual perceptions, weakened the force of his intellectual judgments, and proportionally lessened the confidence of others in his conclusions on the theistic question on which he so confidently pronounces.

Some at least of the moral qualities which he brings into the discussion are equally inconsistent with the philosophic character. The admiration which the general order of nature inspires is declared to be not only boundless but blind, and the astronomers who express this sentiment are stigmatized as resting it on the organization of animals of which they are ignorant, and anatomists on the arrangement of the heavenly bodies which is equally unknown to them, M. Comte in these imputations overlooking that like himself it is possible for astronomers to be also anatomists and for anatomists to be also astronomers, and unlike him for both to be sincere theists. Those who in opposition to his judgment have maintained the doctrine of final causes and of providential laws are described as superficial philosophers (*demi-philosophes*); and the admiration of the mode in which the various vital phenomena operate is pronounced blind, anti-scientific, irrational,



sterile, absurd, puerile.* These are the flowers of rhetoric which M. Comte scatters around on those who differ from him, but they are flowers which yield an odour that must prove offensive to all right-minded men. These are the epithets which he deliberately applies to many of the most illustrious men whom science and philosophy honour and to whom he himself is compelled elsewhere, however inconsistently, to pay ample tribute. He not only accuses his scientific fellow-labourers of ignorance, but also of employing that ignorance to sustain a theological belief which, it is assumed, they know to be false, since astronomers and anatomists respectively are represented as appealing, not to the science which they know, but to that which they do not know, in confirmation of that belief, and physiologists as professing not to understand the mechanism which they hold up for admiration as an illustration of divine wisdom. This exaggerated self-estimation, this equally exaggerated depreciation of others, and above all this allegation against his opponents, for no other apparent reason than because they have arrived at different theological conclusions from his own, of paltering in a double sense with the truths of science, indicate a moral temperament that unfits him to be a safe, because he is evidently a prejudiced,

* See the passage quoted, p. 31. "Cette admiration aveugle et illimitée qu'inspirait l'ordre général de la nature." *Philosophie Positive*, ii. 37.—"Les demi-philosophes qui ont voulu maintenir la doctrine des causes finales et des lois providentielles." ii. 172.—"Une aveugle admiration anti-scientifique du mode effectif d'accomplissement des divers phénomènes vitaux."—"Cette admiration irrationnelle et stérile."—"Cette absurde disposition, la puérile affectation de certains philosophes à vanter la prétendue sagesse de la nature." iii. 461, 262.—"La disposition presque universelle des physiologistes à tirer, de leur ignorance même, autant de motifs d'admirer la profonde sagesse d'un mécanisme qu'ils déclarent préalablement ne pouvoir comprendre." iii. 728.



guide on the theistical question. If it is said that this rule will silence many an advocate of theism, the answer is that no good reason exists why it should not be as strictly applied to them as to others. Theologians have not monopolized the acrimony of religious controversy, as M. Comte by his example proves, but neither certainly have they been exempt from it; and it is to be hoped that in the progress of society we have reached a period when both theistic and anti-theistic philosophers may and must be made to understand that in introducing the bitterness of contempt and the malevolence of passion into their discussions, they only degrade their own characters and injure their own cause. Truth is not the end of goodness, but truth is the means and goodness the end, and to sacrifice the end for the means is contrary both to common sense and to sound philosophy. When such a sacrifice is attempted the laws of the human constitution vindicate themselves by the obscuration which passes over an unregulated and demoralized intellect.

M. Comte has taken one step farther in this direction. After quoting the language of the Hebrew psalmist, *Cæli enarrant gloriam Dei*, he with indecorous levity asserts that the heavens declare no other glory than that of Hipparchus, of Kepler, of Newton, and of all who have contributed to establish their laws.* This might possibly be accepted as a smart saying on certain occasions, in certain places, and by certain persons with whom what is called wit supplies the want of argu-

* "Aujourd'hui pour les esprits familiarisés de bonne heure avec la vraie philosophie astronomique, les cieux ne racontent plus d'autre gloire que celle d'Hipparque, de Kepler, de Newton, et de tous ceux qui ont concouru à en établir les lois." *Philosophie Positive*, ii. 36, *note*.

ment; but in a published treatise it is out of place, in a grave discussion it is without force, from a philosophical author it is without dignity. It is only by a figure of speech that astronomers can be said to have contributed to establish the laws of the heavenly bodies, since all that they do or pretend to do is to discover and explain them. But, waiving this point, M. Comte knows as well as any one that Kepler and Newton would have rejected the invidious glory ascribed to them and would have been shocked by the sentiment he has expressed. Surely it is no part or function of "true astronomical philosophy," even if M. Comte is right in his interpretation of it, to insult the general sense and the received faith of mankind. If there is no God and the heavens do not declare his glory, let mankind be undeceived and their errors disproved. If there is a God and the heavens do declare his glory, still let the objections to his existence and providence be advanced with safety and treated with fairness. But whether there is a God or not, and whether the heavens do or do not declare his glory, in either case and on both sides the arguments employed should be adduced with that staidness of mind and with that absence of frivolity which so mighty a theme imperatively demands. To parody the words of an antique and sacred poem, grandly conceived and grandly expressed, shows little soberness of judgment; and to sharpen the point of an epigram or the edge of a witticism in derogation of the Highest Object which the all but universal belief embodies and contemplates in that poem is little reconcilable with the true philosophic character which in the same breath M. Comte claims and violates.

It is to be regretted also that M. Comte's objections to a supreme will and to the several important consequences of that doctrine are advanced with little scientific precision. It is not that they do not exist in a clear and determinate form in his own mind, but that it does not appear to have been compatible with the design and plan of his work to present them in consecutive order, in their mutual relations, and in their logical connection with his fundamental principle. That principle is law absolute, necessary, invariable, universal, unconditioned; law without a lawgiver. But law with a lawgiver, law conditioned on the existence of an author and source of law, and yet law not the less necessary, invariable, and universal, is the theistic belief, and it might seem to have been required of M. Comte in justice to his subject, to himself, and to his readers, to show by a connected series of distinct objections and definite arguments that such a belief is ungrounded. Instead of this, his arguments and objections, now against a primary cause, now against final causes, now against a providence, now against two of these doctrines, and now against all three together, are to be sought from the beginning to the end of six diffusely written octavo volumes, and are to be found at one time in the form of a gratuitous assumption, at another in the form of an indirect allusion, and at a third in the form of a direct inference. Each of those forms of the belief in a supreme will he has frequently assailed, but in no one instance that can be discovered has he attempted definitely to state what ideas he includes under the terms employed to designate the doctrines to which he objects, a course



clearly opposed to all accuracy of reasoning, to all fairness of argument, and to all soundness of conclusion, since without some such explanation his readers certainly cannot know, and scarcely can he himself be deemed to know, what he is engaged in combating. In some cases where the semblance of an argument is found it is stated with so much vague verbosity and with such a long-drawn involution of meaning, that though the conclusion meant to be established is not at all doubtful, the process by which it is attained is exceedingly obscure, so that a certain class of minds prone to yield to lofty pretension and dogmatic assertion may be swayed, if not against reason, yet certainly without reason. In short, throughout M. Comte's work there is a kind of sharp-shooting, a scattered but continuous fire, a guerilla warfare, carried on against the common beliefs in a first cause, in final causes, and in a providential government of the world. In war, it is true, the party attacked cannot dictate to an enemy his tactics and strategy; and in the polemics of the pen an author must be allowed to choose his own ground and to assail his adversary in his own way. In doing this, however, he must be held subject to the awards of enlightened public opinion; and in the interests of positive science, true philosophy, and just dealing, it will probably be held by every impartial judge that it is not thus that error is to be separated from truth and truth distinguished from error. When all the foundations of what has been and is held sacred by the most civilized nations and by the noblest individual intellects are attacked, it is incumbent on the assailant guardedly to define what he affirms and what he denies, what he

accepts and what he rejects, and why he does the one and why the other. The loose yet confident assertions, the fragmentary and dogmatic argumentation of M. Comte, are very far from fulfilling these reasonable conditions.

Notwithstanding his desultory treatment of the theistical question, the principle which M. Comte advocates and the conclusion at which he aims are well defined. He is fearless and even daring in the avowal of unpopular opinions, and yet by a euphemism he seeks to escape from the unpopular designation by which such opinions are usually described. In this state of things justice to him requires us not to assign to him opinions which he does not hold; and justice to the cause of truth requires us, notwithstanding his reclamation, to characterize his opinions by the name, however unpopular, by which they are usually and correctly known. We must honour his courage in attacking even what we deem truth; but we must be permitted to call by its right name what we deem error. Positive philosophy is the name which he claims for his peculiar system of thought, atheism that which he repudiates; and the following are in substance the distinctions which he maintains to exist between them. Atheism is a negation, denying all religious belief. Positive philosophy is affirmative, recognizing its indispensable although only provisional utility. Atheism, although approaching most nearly to the positive state and constituting a final necessary preparation for it, is yet more transient than any other doctrine. Positive philosophy is the true definitive rule of the human understanding to which all such preparatives tend and in which they terminate. Atheism,

the extreme phase of the revolutionary philosophy of which the earlier phases are the simple primitive lutheranism and the deism of the last century, is retrogressive and must practically end in the worship of nature, in metaphysical pantheism, and in the adoption of the various successive forms of the theological system. Positive philosophy is progressive, anti-revolutionary, organic. To confound things so different as atheism and positive philosophy can proceed only from superficial knowledge, from a malevolent disposition, or from bad faith.*

We have here another illustration of the sweeping indiscrimination which M. Comte introduces into such discussions. Certainly a writer who classes in the same category lutheranism (which is only a sy-

* In the text of his work M. Comte says: "En effet cette philosophie" (la philosophie révolutionnaire), "depuis le simple luthéranisme primitif jusqu'au déisme du siècle dernier et sans même excepter ce qu'on nomme l'athéisme systématique qui en constitue la plus extrême phase, n'a jamais pu être historiquement qu'une protestation croissante et de plus en plus méthodique contre les bases intellectuelles de l'ancien ordre social, ultérieurement étendue par une suite nécessaire de sa nature absolue, à toute véritable organisation quelconque." To the preceding clause in which he describes systematic atheism as the extreme phase of the revolutionary philosophy of which lutheranism and deism are less advanced stages he appends the following note: "Quoique cette phase finale de la philosophie métaphysique doive être par cela même, suivant notre théorie, la plus rapprochée de l'état positif, et former ainsi surtout aujourd'hui une dernière préparation indispensable au vrai régime définitif de l'entendement humain, une appréciation superficielle ou malveillante peut seule faire confondre avec la philosophie positive une doctrine aussi éminemment négative, nécessairement plus transitoire qu'aucune autre, qui condamne d'une manière dogmatiquement absolue toute co-opération essentielle des croyances religieuses à l'évolution générale de l'humanité, où la philosophie positive leur assigne rationnellement au contraire, d'après sa loi la plus fondamentale, un office initial long-temps indispensable à tous égards bien que nécessairement provisoire. La prépondérance d'un tel système ne saurait au fond aboutir dans la pratique, en substituant le culte de la nature à celui du créateur, qu'à organiser une sorte de panthéisme métaphysique d'où l'esprit pourrait aisément rétrograder vers les diverses phases successives du système théologique plus ou moins modifié de manière à constituer bientôt une situation encore plus éloignée en réalité que l'état purement catholique du véritable régime positif. J'ai cru convenable d'indiquer en passant cette explication spéciale qui s'adresse exclusivement au juges de bonne foi: quant aux autres, il serait évidemment superflu de s'en occuper." Philosophie Positive, v. 539.

nonym with him for all the forms of protestantism), the deism of the last century, and systematic atheism, and who describes them all as merely different phases of the same revolutionary philosophy and as constituting a growing and methodical protest against the ancient social order and against all true organization whatsoever, does not seem to occupy a position that peculiarly entitles him to charge his opponents with the intellectual and moral delinquencies just mentioned. At the risk, however, of incurring such imputations, it must be stated that in the contrast which he has drawn there is at once the allegation of what is undeniably true in several respects and the suppression of what is equally true and equally undeniable. Certainly atheism and positivism are not convertible terms: the one is not equivalent to the other. But neither are they in necessary opposition. Atheism may or may not be positive, positivism may or may not be atheistic, and it is altogether gratuitous on the part of M. Comte to assume only one of each of these alternatives, namely, that atheism may not be positive and that positivism may not be atheistic. If we consider the question which he has thus raised from the point of view which atheism presents, then it will be borne in mind that, as has been already shown, there are two principal forms of atheism, the atheism of chance, and the atheism of law. It is true that the one is not the other; that the latter is positive and that the former is not. But it is also true that neither is theism, that both are negations of theism, that is, that both are atheism.

If we consider the question from the point of view which positivism presents, then positivism may be regarded as possessing three different aspects. In



its first aspect positivism is utterly and uncompromisingly opposed to the atheism of chance, which it successfully negatives by proving the reality and rule of law. To confound it with this form of atheism would be the plainest injustice, although it is a confusion into which M. Comte has himself fallen and an injustice which he has himself committed against his own positivism. In its second aspect positivism when viewed simply in itself as an integral system of philosophy undoubtedly possesses the affirmative character claimed for it, and ought not therefore to be identified with unqualified atheism which is a strict and literal negation and nothing more. It may be doubted, however, whether positivism in this view, being a simple affirmation of law, possesses the principle of progress ascribed to it; and it is wholly denied that it constitutes the last result of human development. In its third aspect positivism is as utterly and uncompromisingly opposed to theism as in its first aspect to chance, rejects the idea of a supreme will, and treats the doctrines of a primary cause, of final causes, and of a superintending providence as fictions of the human imagination and superstitions of the uninstructed reason. M. Comte's positivism in this third sense may or may not be true; but whether true or false it is the negation of theism, and the negation of theism is atheism.

It is difficult to understand how M. Comte should have failed to perceive and express this, and should even have expressed the very reverse. Nothing, however, can be more clear throughout his work than the perfect honesty of his convictions, and a probable explanation of the oversight is that he was so thoroughly absorbed in the theory of his own philosophy that he lost, if he ever possessed,

the faculty of looking at the subject he discussed from the point of view of his opponents, and could neither therefore conceive of theism as positive, nor of positivism as atheistic. In opposition to M. Comte both propositions are here distinctly affirmed. The theism of this inquiry is a positive theism, that is, a theism founded on the positive phenomena of life, of society, and of history. The positivism of M. Comte is an atheistic positivism, that is, as is here maintained, a pseudo-positivism which denies God and conflicts with positive phenomena.

In order to make apparent the real position occupied on both sides it has been thought proper to go into these details in illustration of M. Comte's tone and temper, the mode in which he has conducted his argument, and the designation which he claims as well as that which he disclaims for his philosophy. We can now pursue without distraction from minor questions the history of the idea of God, a fiction which according to him the human mind has elaborated for itself by successive efforts throughout a long series of ages.

The most general statement of M. Comte's law is that the first state of humanity is theological, the second metaphysical, and the third and last positive; but when we examine this account more closely with reference to the object of our present inquiry we are enabled to understand that the process by which the idea of God is formed in and evolved from the mind consists of more precise and definite particulars. In this nearer view the theological state is resolved into the three subordinate stages of fetichism, polytheism, and monotheism, astrolatry being the connecting link between fetichism



and polytheism; in the metaphysical state, monotheism is resolved into the personification of nature; and in the positive state nature is superseded by the conception of law. Let us first endeavour clearly to apprehend the successive steps of this alleged process.

The first stage of the theological state is fetichism, which consists in man's ascribing to external objects, animate or inanimate, real or imaginary, passions and volitions analogous to his own. This tendency could at no period have been strictly universal, since the most common facts and the simplest phenomena of daily life have always been regarded as essentially subject to natural laws; but whenever any fact or phenomenon stood out in relief from the ordinary course this was the mode in which the mind in the infancy of humanity interpreted to itself the unusual occurrence. This has its type, according to M. Comte, in some of the lower animals, which arrive, he thinks, in the same manner as we do at a kind of gross fetichism in virtue of which they suppose external bodies even the most inert to be animated with dispositions more or less similar to the personal impressions of the spectators. This notion he illustrates by supposing a watch to be shown for the first time to an infant or a savage on the one hand and on the other to a dog or a monkey, in which case both would conceive of it as some sort of animal having distinct tastes and inclinations, that is, they would exhibit the characteristics of a fetichism radically common both to the human being and to the inferior animal. In this manner man subordinating the world to himself and regarding himself as the universal type transfers to the outer world the sentiment of existence with which

he is inwardly penetrated, and which appearing to him in the first instance to explain sufficiently his own phenomena is adopted as a basis for the interpretation of all external phenomena that require explanation.* Such, according to M. Comte, is the primary element, source, and expression of the religious sentiment in man.

Astrolatry or the worship of the heavenly bodies is the transitional phase of the theological state between fetichism and polytheism, partaking in successive eras of the nature of both. As in the earliest and lowest forms of fetichism the human mind imported the notion of its own conscious activity into terrestrial objects and phenomena, so in astrolatry, the latest and highest form of fetichism, it transferred the same notion to celestial objects and phenomena, and specially to the sun, moon, and planets of our system. In this era it was the real material heavenly bodies that were conceived to be thus animated and that were honoured with religious worship, the generality of their phenomena and the inaccessibility of their position forming a stronger bond of union between the worshippers than could be created by any terrestrial objects. In the second era of astrolatry in which it passes from fetichism

* "L'homme a partout commencé par le fétichisme le plus grossier."—"Le fétichisme constitue nécessairement le vrai fond primordial de l'esprit théologique, envisagé dans sa plus pure naïveté élémentaire et néanmoins dans sa plus entière plénitude intellectuelle."—"La philosophie théologique, convenablement approfondie, a toujours évidemment pour base nécessaire le pur fétichisme qui divinise instantanément chaque corps ou chaque phénomène susceptibles d'attirer avec quelque énergie la faible attention de l'humanité naissante." Philosophie Positive, v. 32, 39, 40.—"A proprement parler, la philosophie même dans notre première enfance individuelle ou sociale, n'a jamais pu être rigoureusement universelle : c'est-à-dire que, pour tous les ordres quelconques de phénomènes les faits les plus simples et les plus communs ont toujours été regardés comme essentiellement assujétis à des lois naturelles au lieu d'être attribués à l'arbitraire volonté des agens surnaturels." iv. 693. See also v. 42-44.

into polytheism the heavenly bodies were no longer conceived as living beings to be feared and worshipped, but as inhabited by presiding deities who governed their movements and controlled their influence, and who were consequently the proper objects of adoration. It is evident that from the lowest to the highest form of fetichism, and from the fetichistic to the polytheistic form of astrolatry there was real progress.*

Polytheism taking its impulse from the last and most improved form of astrolatry consists in deifying purely fictitious beings on a still larger scale. The conception of divinities inhabiting the heavenly bodies and of whose glories the heavenly bodies were only outward expressions, paved the way for the indefinite multiplica-

* "Nous avons dû attacher une haute importance à la division de l'âge fétichique en deux phases principales successivement caractérisées, l'une par le fétichisme proprement dit, l'autre par l'astrolâtrie où cette philosophie initiale reçoit enfin une extension prépondérante aux corps les plus généraux et les plus inaccessibles. Dès lors parvenu à la plus entière perfection dont il fût susceptible, le régime fétichique commençant à déterminer le développement d'un vrai sacerdoce a comporté réellement une haute efficacité politique, en permettant à l'ordre naissant des sociétés humaines d'acquérir une extension indispensable et une consistance durable, d'après l'essor d'un système d'opinions suffisamment communes et du principe de subordination inhérent à la consécration religieuse : le passage, ordinairement simultanée, de l'existence nomade à l'existence sédentaire, vient spontanément fortifier cette double influence sociale. Mais une telle phase est nécessairement très-voisine de l'avènement décisif du polytheisme proprement dit vers lequel l'astrolâtrie constitue de sa nature une inévitable transition. Par cette grande révolution théologique, le principe religieux subit déjà une modification très-profonde jusqu'ici mal appréciée : l'activité divine primordiale résultant de l'assimilation spontanée de tous les phénomènes quelconques aux actes humains, y est directement retirée aux êtres réels pour devenir désormais l'attribut exclusif des êtres purement fictifs, dès lors susceptible d'élimination graduelle sous l'impression ultérieure de la raison humaine, dont l'essor naturel est ainsi notablement encouragé. Malgré la haute difficulté mentale d'une telle transformation, la plus profonde que dussent éprouver les spéculations théologiques dans l'ensemble de leur durée, la prépondérance croissante des habitudes astrolâtriques la détermine d'une manière presque imperceptible en temps opportun, quand un suffisant essor de l'esprit d'observation a fait naître le besoin d'imprimer aux conceptions religieuses un premier degré de généralisation, de concentration, et de simplification dont l'accomplissement commence à manifester l'intervention nécessaire de l'esprit métaphysique substituant déjà ses entités caractéristiques aux divinités matérielles ainsi écartées." *Philosophie Positive*, vi. 494.

tion of such imaginary existences by placing under the authority of a special deity every object or element of nature which struck the mind with awe or admiration, or which evoked the sentiment of fear or hope. Thus the visible came to be surrounded with an invisible world peopled with superhuman agents whose sovereign activity determined all appreciable phenomena; and whenever the contemplation of nature offered a new and embarrassing phenomenon a new volition was ascribed to the corresponding ideal agent, or a new agent was called into existence for its explication. Thus arose the three forms of polytheism on which M. Comte dwells, the Egyptian, the Greek, and the Roman, and thus was indefinitely extended the number of gods and goddesses which each system embraced.*

* "Tel est donc, sous le point de vue logique, l'indispensable office primordial, exclusivement affecté à la philosophie théologique, dans l'évolution fondamentale de notre intelligence, où l'essor de l'imagination doit nécessairement, en un genre quelconque, toujours devancer l'essor de l'observation, aussi bien pour l'espèce que pour l'individu. A cette seule philosophie il appartenait, en vertu de son admirable spontanéité caractéristique, de dégager réellement l'esprit humain du cercle radicalement vicieux, où il paraissait d'abord irrévocablement enchaîné, entre les deux nécessités opposées, également impérieuses, d'observer préalablement pour parvenir à des conceptions convenables, et de concevoir d'abord des théories quelconques pour entreprendre avec efficacité des observations suivies. Ce fatal antagonisme logique ne pouvait évidemment comporter d'autre solution que celle naturellement procurée par l'inévitable essor primitif de la philosophie théologique, en assimilant autant que possible tous les phénomènes quelconques aux actes humains : soit directement d'après la fiction originelle qui anime spécialement chaque corps d'une vie plus ou moins semblable à la nôtre ; soit ensuite indirectement d'après l'hypothèse, à la fois plus durable et plus féconde, qui superpose à l'ensemble du monde visible un monde habituellement invisible peuplé d'agens surhumains plus ou moins généraux, dont la souveraine activité détermine continuellement tous les phénomènes appréciables, en modifiant à son gré une matière vouée sans elle à une totale inertie. Dans ce second état surtout, mieux connu et moins éloigné de nos idées, quoiqu'il n'ait jamais pu être primordial, la philosophie théologique fournit les ressources les plus faciles et les plus étendues pour satisfaire aux besoins naissans d'une intelligence alors disposée à préférer naïvement les explications les plus illusoire : à chaque nouvel embarras que peut offrir la spectacle de la nature, il suffit en effet d'opposer ou la conception d'une volonté nouvelle chez l'agent idéal correspondant, ou tout au plus la création peu coûteuse d'un agent nouveau." Philosophie Positive, iv. 667.

As fetichism is the first and polytheism is the second stage of the theological state with the transitional stage of astrolatry intervening between the two and partaking successively of the nature of both, so monotheism or the recognition of a single divinity is the third and last stage of the theological state. M. Comte has not very fully explained the process by which this stage is attained, but the following may be accepted as an expansion of the hints he has given. The growth of fetichism through astrolatry into polytheism converted the worship of real existences (*êtres réels*) into that of existences wholly fictitious (*êtres purement fictifs*); and the substitution for real of fictitious objects of worship permitted the indefinite multiplication of the latter. But what at one period and in one condition of society permitted their indefinite multiplication, at another period and in another condition of human thought permitted the indefinite reduction of the number of fictitious divinities, until at last in the progress and under the guidance of human reason a gradual elimination (*élimination graduelle*) abolished the notion of separate and independent divinities and left only the grand conception of God* (*la grande conception de Dieu*). It will be observed that according to this view all the divinities of polytheism were fictitious before the process of elimination commenced, and that after this process has been so far completed the residuum of one God is not less a fiction. Monotheism, according to M. Comte, has just as little truth as polytheism. Of monotheism there are two chief representatives in the world, Christianity and Muhammadanism.

* See the passage quoted page 139: also *Philosophie Positive*, vi. 691.

Of the two Christianity is the only fit and worthy organ of monotheism; and of Christianity, Catholicism is the only consistent and true expression.

The three preceding stages or forms of religious belief, fetichism, polytheism, and monotheism (considering astrolatry as at one period the last phase of fetichism and at another as the first phase of polytheism), constitute according to M. Comte the entire theological state of the human mind; and as our object is to trace the history of the idea of God it may be supposed that we should here pause. But in order to do justice to his views it is necessary to endeavour to understand not only the account which he more or less obscurely gives of the formation of the idea, but also of the process by which that idea, in addition to the previous fictitious conceptions of polytheism, is gradually eliminated. This will still more clearly establish that in his judgment that idea also is wholly fictitious.

This process of elimination consists of two steps constituting successive and distinct states of the human mind, the first metaphysical and the second positive, of which the former is merely intermediate and transitional between the theological and the positive states, while the latter is final and permanent. As in the theological state the human mind conceives phenomena to be produced by the direct and continuous action of supernatural agents, more or less numerous, whose arbitrary intervention explains all the apparent anomalies of the universe, so in the metaphysical state which is a mere general modification of the theological, those supernatural agents are succeeded by abstract forces, pure entities or personified abstractions, inherent



in the different forms of existence and conceived as capable of producing by themselves all the observed phenomena. And as the theological system arrives at its highest perfection in substituting the providential action of a single being for the diversified disport of numerous independent divinities, so the culmination of the metaphysical system takes place when, instead of the different special entities, a single grand general entity, viz. nature, is regarded as the sole source of all phenomena. Thus natural forces become the metaphysical substitutes for the various divinities of polytheism; and the new entity called nature the metaphysical substitute for the grand conception of monotheism. The source of this change is to be found in the acceptance by monotheism of the dangerous aid of reason which limits the supreme divinity to a vague primary intervention, interdicts him from altering the laws which he has established, and confides their special and continuous operation to nature, thenceforth the object of daily contemplation and even of adoration.*

The theological state has been superseded by the metaphysical, and next, according to the necessary operation of M. Comte's fundamental law, the metaphysical is superseded by the positive state which is fixed and definitive. In this state the human mind

* "Dans l'état métaphysique qui n'est au fond qu'une simple modification générale du premier, les *agens surnaturels* sont remplacés par des forces abstraites, véritables entités (abstractions personnifiées) inhérentes aux divers êtres du monde, et conçues comme capables d'engendrer par elles-mêmes tous les phénomènes observés, dont l'explication consiste alors à assigner pour chacun l'entité correspondante."—"Le dernier terme du système métaphysique consiste à concevoir, au lieu des différentes entités particulières, une seule grande entité générale, la *nature*, envisagée comme la source unique de tous les phénomènes." Philosophie Positive, i. 4, 5. See also vi. 294-297.

recognizes the impossibility of acquiring absolute notions, abandons investigation into the origin and destiny of the universe and into the intimate causes of phenomena, and aims only by means of reasoning and observation at the discovery of their laws, that is, their invariable relations. The explanation of facts reduced to its real terms is thenceforth nothing more than the connection established between various special phenomena and certain general facts of which the progress of science tends gradually to reduce the number. As the theological system reaches its highest improvement in monotheism and the metaphysical system in the conception of nature, so the perfection of the positive system would be to be able to represent all the various phenomena that come under observation as special instances of a single general fact, such for example as that of gravitation. The ideas of fetich, gods, God, and nature, and every thing superhuman being thus successively and finally eliminated from the mind, man is brought to the conception and study of those invariable relations which constitute law, the only legitimate object of research for man. The ancient philosophy, whether theological or metaphysical, is thenceforward powerless for good, and its superannuated domination presents only obstacles to human progress.*

* " Dans l'état positif l'esprit humain reconnaissant l'impossibilité d'obtenir des notions absolues, renonce à chercher l'origine et la destination de l'univers, et à connaître les causes intimes des phénomènes, pour s'attacher uniquement à découvrir, par l'usage bien combiné du raisonnement et de l'observation, leurs lois effectives, c'est-à-dire, leurs relations invariables de succession et de similitude. L'explication des faits, réduite alors à ses termes réels, n'est plus désormais que la liaison établie entre les divers phénomènes particulières et quelques faits généraux, dont les progrès de la science tendent de plus en plus à diminuer le nombre."—" La perfection du système positif, vers laquelle il tend sans cesse, quoiqu'il soit très-probable qu'il ne doive jamais l'atteindre, serait de pouvoir se représenter tous les divers phénomènes observables comme

Such, nearly in M. Comte's own words and it is believed with a faithful adherence to his essential conceptions, is a brief history of the rise, the growth, the decline, and the extinction of the idea of God in the human mind, and of its destined course in human society. It is not difficult to collect what M. Comte's views are, but it is difficult to separate them from the sociological inferences and conclusions which he binds up with them, and in which he is constantly assuming without proof the truth of his anti-theistic doctrines, and embarrassing the almost hopeless attempts of his readers to bring them into logical connection with the premisses from which they are drawn. Under these circumstances the following summary of his teaching on this subject may aid the apprehension of the inquirer.

The anti-theistic positivist points to the fact of the early, the once universal, and the still general prevalence of fetichism, that primitive pantheism by which man in his first endeavours to explain to himself the phenomena of nature ascribes the vital powers of which he is himself conscious to all those surrounding objects

des cas particuliers d'un seul fait général, tel que celui de la gravitation, par exemple." Philosophie Positive, i. 4, 5.—"Envers chacun des différens ordres de phénomènes nous avons spécialement reconnu que la philosophie positive se distingue surtout de l'ancienne philosophie, théologique ou métaphysique, par sa tendance constante à écarter comme nécessairement vaine toute recherche quelconque des causes, proprement dites, soit premières, soit finales, pour se borner à étudier les relations invariables qui constituent les lois effectives de tous les événemens observables, ainsi susceptibles d'être rationnellement prévus les uns d'après les autres." vi. 701.—"On peut regarder la conception de la divinité ou plutôt des dieux, comme étant depuis longtemps encore plus radicalement impuissante sous l'aspect esthétique qu'elle ne l'est certainement devenue sous le point de vue intellectuel et même enfin social." 879.—"L'organisation positive de la morale doit aujourd'hui déterminer avec le plus d'efficacité l'entière élimination de la philosophie théologique, dont la domination surannée entrave encore, à tant d'égards, malgré sa propre impuissance, l'essor fondamental de la pensée et de la sociabilité modernes." 893.

from which he either hopes or derives benefit, fears or suffers injury. He gradually learns to limit this personification and deification to the most prominent elements, fire, air, earth, ocean, and at a later period to the sun, moon, and stars, assigning to them superhuman powers, and conceiving other phenomena subject to their authority. In process of time those objects are divested of divine personality, and not the objects themselves, but the gods supposed to reside in them and to animate them are worshipped. When once the imagination is let loose to frame personal gods for itself, the number is indefinitely increased with every variety of form and function, and the pantheon receives large additions by means of apotheoses and incarnations. This system of imaginary divinities shocks the reason first of one, then of another, until by slow steps and in successive generations the idea is developed, accepted, and established of one God, concentrating in himself the powers of all the gods, creating and preserving, guiding and governing, punishing and rewarding according to his pleasure. At a still more advanced period this supreme divinity is, as it were, exiled from the care of his creatures into the inaccessible solitude of his own absolute being, and the monotheistic idea is transformed into that of a vague and undefined, but ever-living and all-pervading nature. Finally, this loose and fluctuating idea of nature is resolved into the plain and simple, the positive and true, conception of law, explaining all the known relations and combinations of matter and mind, of man and society. Now in that stage of this process in which monotheism appears, this result, however natural and necessary, according to

M. Comte, as a step in the progressive development of the human mind, is not less visionary than the equally natural and necessary fictions of fetichism, astrolatry, and polytheism that preceded it, and of nature by which it is followed. First we see a rude attempt to account for the phenomena of nature by vivifying, personifying, deifying almost every thing. Gradually supernatural powers are restricted to a few and still fewer possessors, and at last they are made to converge in one all-embracing divinity. But whether such powers are ascribed to all, to many, to few, or to one only, every such conception is a mere fiction of the imagination, all of them from first to last destitute of any solid ground on which to rest. The civilized world has outgrown the worship of stocks and stones, of trees and animals, of sun and moon, of Jupiter and Woden; and it remains to divest itself of a belief in God, and to regard theism as one of the superstitions which it is bound to cast aside.

M. Comte has not presented this statement, and the conclusion founded on it in the form of an argument. He does not say, This is the way in which the idea of God has sprung up in the mind and *therefore* it is false. Without the form of reasoning or the trouble of deduction he merely *assumes* that this is the true history of the idea, and that, this genesis of it being admitted, its falsity follows as a matter of course along with the other errors in which it is imbedded. He merely expects that all who believe in God will accept his undoubting assurance that they are in a mistake, and will as soon as possible dislodge that belief from their minds. This certainly is not a very modest anticipation; but it is a

mode of proceeding that possesses the unquestionable advantage of bringing very speedily to a close all troublesome controversies. Theists, however, do not attach so little importance to their belief or so high a value to M. Comte's authority as to be willing to surrender their convictions for his on so slight a ground. It will be necessary therefore to consider, first, whether, admitting the perfect accuracy of all his details, he has made a logical and consistent use of them, and second, whether those details really include all the essential facts of the case.

Let it be assumed then that M. Comte's account is precisely and in every respect a full and correct exposition of the process by which man first gains and then loses the idea of God, it does not by any means follow that that idea is a fiction. This intuition of M. Comte's, for it cannot be called an argument, when put in a direct form may be thus expressed. The human mind has through a series of painful and protracted struggles emerged out of many gross and grievous errors into a belief in one God, and therefore that belief is itself an error. The answer is that it may be an error, but we do not by this means make the slightest approach towards a perception of it as such. All human knowledge is tentative, experimental, gradual, progressive. All progress towards truth consists first in learning and then in unlearning error; in endeavouring to exhaust and exclude all the possible forms of error, and then reposing on stable truth which the previous separation of error makes clearer and more satisfying to the mind. It is thus that astronomy has become the successor of astrology, and chemistry of alchemy; and it is thus,

even according to M. Comte, that metaphysics displaces theology, and positivism displaces metaphysics, in each and in all not by a single, sudden, and successful step, but by a toilsome journey and through many devious paths. The succession of steps by which a truth is attained, is not a legitimate ground for its rejection. If it were, astronomy and chemistry would be false sciences, and positivism a false philosophy. Theism may have passed through the different stages ascribed to it, fetichism, polytheism, monotheism. In its monotheistic stage, it may have passed through phases of which M. Comte takes no account. And it may have been subsequently resolved into nature and at last into law. And yet in all its forms and changes and in all the substitutes that have been offered for it, it may express a great and indestructible truth, the basis not only of all religion and of all morality, but also of all science and of all philosophy.

The history of what M. Comte calls the grand conception of God, does not then oblige us with him to consider that conception a fiction; and after repeatedly and ostentatiously thus characterizing it even he himself makes the unexpected admission that its true fundamental principle rests on natural law, and that its elementary germ is identical with that of his favourite positive philosophy. He was apparently led to make this admission, however inconsistently, in accordance with the following train of thought. A system, a philosophy, a doctrine which flows from the imagination, and is unsupported by phenomena and law is in his language a fiction : a system, a philosophy, a doctrine, which from its first origin is rational and positive is a

truth. But how, it may be said, is this reconcilable with the terms of his alleged fundamental law which make the theological state the first, and the positive the final state of humanity, the former containing no positivism as the latter in its full development will exclude all theism? The answer to this in substance is that even in the theological state there is a certain though limited development of the positive philosophy; that even the theological philosophy itself has its root in positivism; and that the one is certainly, at bottom, quite as original as the other.* This is said in order to establish that the positive spirit existed, although only to a very restricted extent, in the earliest stage of human culture; but in establishing this it is also affirmed that the elementary germ of the positive philosophy and that of the theological philosophy are equally primitive; and that the true fundamental principle of the latter, as of the former, is derived from the operation of primary natural laws. It is true that the fictitious nature of the idea expressed is kept steadily in view (*fictivement transportée*), but the basis on which that fictitious idea rests is explicitly held to be real and positive, an admission which, as will hereafter be shown, carries with it important consequences. At present we are con-

* "On doit même remarquer à ce sujet que c'est l'ébauche spontanée des premières lois naturelles propres aux actes individuels ou sociaux qui, fictivement transportée à tous les phénomènes du monde extérieur, a d'abord fourni, d'après nos explications précédentes, le vrai principe fondamental de la philosophie théologique. Ainsi, le germe élémentaire de la philosophie positive est certainement tout aussi primitif au fond que celui de la philosophie théologique elle-même, quoiqu'il n'ait pu se développer que beaucoup plus tard. Une telle notion importe extrêmement à la parfaite rationalité de notre théorie sociologique, puisque, la vie humaine ne pouvant jamais offrir aucune véritable création quelconque, mais toujours une simple évolution graduelle, l'essor final de l'esprit positif deviendrait scientifiquement incompréhensible, si dès l'origine on n'en concevait à tous égards les premiers rudimens nécessaires." *Philosophie Positive*, vi. 695.

cerned only with the admission itself, and it is not made without very adequate grounds. For it is obvious that there could have been in fetichism no ascription of personal qualities to impersonal objects, of human qualities to superhuman agents, of visible qualities to invisible existences, without the previous actual experience and recognition of those personal, human, and visible qualities in man himself. Theological philosophy, then, by M. Comte's admission, if a fiction, no more rests upon a fiction than does positive philosophy itself. It is a fiction that rests upon facts, the unquestioned and unquestionable facts of human experience and observation. The idea of God, however wide the divergences from reality into which it may have passed in its forms of expression, has confessedly a deep root in human consciousness, in actual relations, and in natural law.

This inconsistency which concedes a positive origin to a fictitious philosophy may be explained away or may be regarded as trivial; and in point of fact it is much less important than the larger and broader admission about to be noticed, not contained in a single sentence only, however clearly expressed, but inextricably interwoven with the whole structure, and interfused through the entire spirit, of M. Comte's philosophy. To illustrate this, let it be borne in mind that no one can or does deny that the idea of God exists as a form of thought in the human mind; that it has exercised an immense influence on the development of individual character, on the progress of society, and on the destinies of the race; and that that influence has been on the whole salutary and civilizing. The question then is

not as to the existence of the idea in the world, the extent of its influence, or the beneficial nature of that influence; but it is whether the idea itself is a true or a false idea. It does not follow because the idea exists that therefore it is true, since the mind can think what is false as well as what is true. It does not follow that the idea is true because it has exercised a mighty influence, since error also often sways the world. It does not follow that the idea is true because its influence has been fruitful of good, since it has also been sometimes productive of evil, and since even error has at least seemed sometimes to work for good. But in estimating the various considerations that enter into this very grave and profound question, what are we to think of a writer voluminous, elaborate, scientific, philosophical, who has arrived at the undoubting conviction, expressed with persevering iteration in every variety of phrase, leaving no doubt of the strength and earnestness of his belief, that there is no God, and who notwithstanding makes a belief in God in one or other of its various forms, the very pivot on which his whole system of thought turns, the foundation-stone of the positive edifice which he has attempted to construct, the first expression of the fundamental law which he claims to have discovered, the first principle of the new science which he announces to the world, the first stage of that vast process of evolution through which human nature and human society must pass to reach their highest perfection? What are we to think when an avowed, a deliberate, an implacable, and even a contemptuous opponent of the idea of God has felt himself compelled by the study of human nature and human society to embody that idea as a neces-

sary and indispensable element in the construction of his philosophical system, to regard it as the spring and source of his fundamental law, the germ of his positive philosophy, and to proceed on the assumption that without its recognition there can be no true science of society, of its constitution, its changes, and its history? There are two ways of answering this question according as the idea of God is held to be true or false.

If the idea of God is false, if in the language of M. Comte the theological state of the human mind is fictitious, then equally fictitious and false are the law and the philosophy which he has built on that foundation. It is quite conceivable and possible that the foundation may be good and strong, and yet the superstructure may be ill-planned and ill-constructed; but it is impossible that the superstructure can be secure if the foundation is laid in sand. It is at once seen that by contending for the false and fictitious nature of all theistic belief and at the same time making that belief the basis and groundwork of his philosophy, he has with his own hand unconsciously destroyed its positive character, vitiated the whole of his subsequent reasonings and illustrations in its support, and rendered it illogical and irrational to give an assent to the conclusions at which he has arrived. Is M. Comte willing to accept this inevitable consequence? It is not to be expected. But it happens by a curious coincidence that he has furnished us with the means of knowing how he would have judged the question if it had been one of purely scientific interest. In treating of the calculus of indirect functions, he has instituted an able and discriminating comparison between the methods of Leib-

nitz, Newton, and Lagrange, the successive founders of transcendental analysis. He considers that Leibnitz did not clearly apprehend the rational basis of the method he had created, and that Carnot was the first to show that it rests on the principle of the necessary compensation of errors which proceed from the false notion, involved in the method, of magnitudes or quantities infinitely small. Now M. Comte holds that the assumption of this *false idea* into the method radically vitiates it; that such an idea is metaphysical and anti-positive; and that it is a great defect of any method to be obliged in mathematics to distinguish between two kinds of reasonings, those that are perfectly rigorous, and those in which we purposely commit errors that must afterwards be corrected by compensation.* The principle laid down here is that a false idea taken as the basis of the infinitesimal method of Leibnitz vitiates it at its very source, vitiates the reasonings that flow from it, vitiates its whole character and operation. Apart from any other application, this appears a sound prin-

* "Quand on considère en elle-même et sous le rapport logique la conception de Leibnitz, on ne peut s'empêcher de reconnaître avec Lagrange qu'elle est radicalement vicieuse, en ce que, suivant ses propres expressions, la notion des infiniment petits est une *idée fautive*, qu'il est impossible en effet de se représenter nettement quoiqu'on se fasse quelquefois illusion à cet égard. L'analyse transcendente ainsi conçue présente à mes yeux cette grande imperfection philosophique, de se trouver encore essentiellement fondée sur ces principes métaphysiques dont l'esprit humain a en tant de peine à dégager toutes ses théories positives. Sous ce rapport, on peut dire que la méthode infinitésimale porte vraiment l'empreinte caractéristique de l'époque de sa fondation, et du génie propre de son fondateur. On peut bien il est vrai, par l'ingénieuse idée de la compensation des erreurs, s'expliquer d'une manière générale, comme nous l'avons fait ci-dessus, l'exactitude nécessaire des procédés généraux qui composent la méthode infinitésimale. Mais cela seul n'est-il pas un inconvénient radical, que d'être obligé de distinguer en mathématique deux classes de raisonnemens, ceux qui sont parfaitement rigoureux, et ceux dans lesquels on commet à dessein des erreurs qui devront se compenser plus tard? Une conception qui conduit à des conséquences aussi étrangères est sans doute rationnellement bien peu satisfaisante." Philosophie Positive, i. 263.

ciple, and sound or unsound it is a criterion which M. Comte has applied to the Leibnitzian method. If he is willing to employ, or to allow others to employ, the same criterion in judging of his own philosophy, then that philosophy must be condemned without appeal or reprieve, for no one can be more strenuous than M. Comte himself in maintaining that the theological state of the human mind, the theological philosophy, the theological system is fictitious; that is, that the belief in God in the various and successive stages of its development is a false belief, and in making that false belief the indispensable source from which the impulse to all human improvement is derived. According to M. Comte's explicit and reiterated admission his philosophy rests on a false idea, and according to the criterion which he has applied to the infinitesimal method that false idea must be held radically to vitiate his philosophy, and to destroy confidence in it as an exposition of the course of human progress.

But there is another alternative. Assume that the belief in God is true, and then M. Comte's law and philosophy may be true also; or conversely assume that M. Comte's law and philosophy are true, then the belief in God, of which while he makes such abundant use of it he affirms the falsity, must be true. The soundness of the foundation affords a presumption only of the stability of the superstructure; but the stability of the superstructure pre-supposes the soundness of the foundation. No one can be more earnestly and firmly convinced than M. Comte himself of the truth of his own fundamental law and positive philosophy, and it follows that his should be the last pen to deny the

solidity of the basis on which they rest. Against himself, therefore, we must and will believe that he has built his system upon a truth, not upon a fiction. In fact there is something irresistibly ludicrous, if it were not painfully humiliating, in the circumstance of a philosopher coming before the world and with a vast display of real science and research and a vast amount of mere vanity and verbiage saying: "Here is a new science, a new philosophy, a new law of human progress, the crowning complement and glory of all the past discoveries of all former sages and philosophers, and the foundation on which it rests is—a *fiction*!" We are surely entitled to answer: "The philosophy may be deep, the science may be sound, the law may be necessary and deduced from the most certain phenomena of experience and observation, but if so, the foundation must be—a *truth*!" It is one of the wildest dreams of incredulity that the whole constitution of human nature, the whole circle of human thought, the whole course of human history should hinge upon a falsehood. M. Comte by the conditions of his own system of thought is precluded from denying the truth of a belief in God, and from exacting such a denial from those who accept that system. With an avowed desire to escape from that belief and to banish it from the world, he has been compelled by the force of facts to make it an essential constituent of the principles that have been inextricably interwoven with human affairs in all past ages. How is this? Is life a dream? Are these phantoms that are passing before our eyes? Are we ourselves any thing more than figments of the imagination? Does not M. Comte perceive that by

making belief in God the mainspring of his system, he affords ground for the conviction that there is something true and real and valid in the conception on which he builds, and from which confessedly all human civilization has proceeded? Is it not the demand of a genuine positive philosophy that every dominant conception, every influential belief of the human mind shall have a substratum of truth on which to rest? Every such conception or belief is a fact of the most positive character, which must be classed by positive science under some invariable law, and such an invariable law, to be so, must be a fact, not a fiction; a truth, not a falsehood; but not more a fact and a truth than the special facts and truths of which the law is composed and from which it is deduced. It is not enough to say with M. Comte that in man imagination is stronger than reason, and that the products of the former are not to be subjected to the criterion of the latter. This is true, but it is not the whole truth. Imagination is stronger than reason; but it does not absorb, swallow up, extinguish reason. Man even in his lowest state, and however often betrayed by his own misconceptions, is still upon the whole true to the inherent qualities of his nature. When by the operation of an acknowledged necessary law of his nature he acquires the idea of God, and in one form or another thinks, acts, and lives out that idea in all the generations of his race and in all the ages of his being, then the conclusion seems to be inevitable that, with whatever deductions for the mistakes of his judgment, or the feebleness of his will, or the misdirection of his efforts, there must be some reality to answer to that idea. To suppose otherwise is to

strike a fatal blow at the essential truthfulness of his faculties and at the reality of all knowledge whatever. And it is to be remembered that this preponderating influence of the theistic idea is not a doubtful inference or a contested fact. It is not an influence affirmed only by theists or a fact which floats on the mere surface of history. It is a fact and an influence so thoroughly penetrating human nature, human character, and human society in all their phases and forms of development, that it is found impossible for an anti-theistic positivist to frame his system of philosophy without making that theism which he contemptuously rejects the basis and groundwork of all his speculations.

Before endeavouring to ascertain the element of truth contained not only in monotheism, but in polytheism, in astrolatry, and even in fetichism, it is desirable to remove a difficulty that may be suggested. It is alien to the general apprehensions of theists to admit that there is any element of truth whatsoever in any of the forms of pagan religion; and Archbishop Whately in his recently published Annotations on Bacon's Essays has expressed this sentiment in the strongest language, when he maintains that Bacon, in defending Epicurus from the charge of atheism, altogether mistook the real character of the pagan religions, and that the pagan nations were in reality atheists.* With great respect

* "Epicurus is charged that he did but dissemble for his credit's sake when he affirmed there were blessed natures . . . wherein they say he did but temporize, though in secret he thought there was no God. But certainly he is traduced."—BACON.

"It is remarkable that Bacon, like many others very conversant with ancient mythology, failed to perceive that the pagan nations were in reality atheists. They mistake altogether the real character of the pagan religions. They imagine that all men in every age and country had always designed to worship one supreme God, the maker of all things; and that the error of the pagans

for so high a living authority, we must be permitted to think that the mistake is that of the Annotator, not of the Essayist, and that indiscriminately to pronounce the pagan nations atheists must tend to prevent the formation of just conceptions and the use of accurate language respecting the religious condition and character of heathen nations both ancient and modern. The archbishop assumes that his own conception of God is not only true as far as it goes but that it is complete, and that his own definition is the only one that can be given, and he pronounces a sentence of atheism *ex cathedrâ* upon all who do not adopt them. In appealing against this sentence let it be admitted that the definition accurately describes the conception, and that the conception is a higher, purer, and juster one than that of pagan nations, and yet it does not follow that they can be correctly represented as atheists. For in the first place the pagan nations had some notions of governing powers over nature, which, however imperfect, crude, and even contradictory, were approaches to theism, and should relieve them from the unqualified charge of atheism. Atheism is not the denial of monotheism only, but also of polytheism; not only of one God, but of gods; of all superhuman agency or agencies whatsoever. In this view the pagan nations were theists, not indeed

consisted merely in the false accounts they gave of Him, and in their worshipping other inferior gods besides. But this is altogether a mistake. Bacon was in this misled by words, as so many have been; the very delusion he so earnestly warns men against. The pagans used the word 'God,' but in a different sense from us. For by the word God we understand an Eternal Being who made and who governs all things. And if any one should deny that there *is* any such being, we should say that he was an atheist; even though he might believe that there do exist beings *superior to man*, such as the fairies and genii, in whom the uneducated in many parts of Europe still believe." WHATELY, p. 139.

in the same sense, but in as strict and literal a sense as Christian theists. The belief in fairies and genii is probably a remnant of fetichistic times, *i.e.* of the earliest and lowest form of paganism. Would it be consistent with justice, not to speak of charity, to denounce as atheists the uneducated, who, according to the archbishop, in many parts of Europe, still believe in these fantastic existences? Again, the pagan nations who are described as atheists possessed the conception of a supreme deity, a conception undoubtedly in several respects inferior to the same conception in Christian minds, but still the conception of a deity supreme over gods and men, the source of law, and the father of all. In proof of this, reference may be made to the passage already quoted (p. 117) from Cicero de Republica, in which he speaks of God as *legis inventor, disceptator, lator*, and as *magister et imperator omnium*, the latter phrase being adopted and appropriated by Lactantius as a true description of the God of Christians. It is more difficult to understand whom or what Lucretius meant when he spoke of the deity as the common father of all (*omnibus ille idem pater est*, ii. 991), but still the conception, however obscure and indeterminate, is there. The Hindus, probably the best representatives in modern times of polytheism and idolatry, even in the most debased times and in the corruptest forms of their religion, have retained the idea of *One God who is without a second or equal*, and although this idea is from the moral point of view eminently defective, since the deity it regards is conceived to take no direct part in the government of the world, yet, intellectually considered, it must be pronounced purer and more

elevated than that which is generally entertained in Christian countries, since it tolerates no distinctions in the intimate essence of his being. The most devoted adherents of Hindu polytheism and idolatry are the bitterest and most inflexible opponents of atheism, and yet Archbishop Whately would confound all differences and make even them atheists. Once more, however superior on the whole the Christian to the Pagan conception of God, will any one—will the archbishop—affirm that the former is perfect, that any conception by a finite nature of an infinite can be perfect? But if our conception of God is necessarily imperfect, we may have omitted, we may even be incapable of apprehending, some essential attribute or element which a higher order of beings may understand, or which a higher state of our own existence may bring within the grasp of our minds. In the former case must that higher order of beings look upon us now as atheists, because our idea of God does not come up to their standard? In the latter case, in that higher state of our own existence, must we look upon our former selves as atheists, because we have reached a more elevated standard of thought and acquired worthier conceptions of the Deity? A rule of judgment that would entail such consequences must be erroneous. Finally, the archbishop's definition when tried even by our present crude apprehensions, is imperfect and obscure. *An Eternal Being who made and who governs all things*—this is Archbishop Whately's notion of God, and according to him the only true notion which stigmatizes with atheism all who do not accept it. When such a sentiment is advanced from such a quarter and on such a

ground, we are entitled to interpret the definition according to its literal terms; and, so interpreted, we may ask whether the infinity of the deity is not as necessary to be affirmed as his eternity; and whether we are to suppose that the archbishop has made such feeble advances into theism as to conceive of God's governing only things, not persons; only matter, not mind.

Atheism, then, is not a contradiction of monotheism only, but of polytheism, and even of fetichism, and the definition of theism includes even these less advanced forms of belief in superhuman agency. It is, however, neither necessary nor just to make theism responsible for all the erroneous conceptions and immoral practices that have been in different ages and under different forms connected with it. In the attempt to construct an intelligible and coherent theory of human belief, it is allowable in reason and indispensable in fact to distinguish between the use and abuse of a truth, between the essential element that characterizes it and the useless or hurtful accretions that gather around it and sometimes hide it from the view. Fetichism, polytheism, and monotheism are capable of being abused and have been abused in fact. It would be easy to accumulate charges against all three; the barbaric juggleries and incantations of fetichism, the tyrannical priesthoods and open or secret immoralities of polytheism, and the intellectual pride and intolerance of monotheism. It would still, however, be true, not only that these forms of belief have contributed and are contributing to carry forward the race in the career of improvement, but that in order to subserve this end in the evolution of



humanity, they must each and all contain an important germ of truth which it is the business of the philosophic inquirer to discover and estimate.

With this preliminary explanation to remove a difficulty which would negative all forms of theism but one and which would virtually deny their instrumentality in promoting the civilization of the world, we arrive now at the question whether there is or is not a truth involved in the idea of God expressed in fetichism, polytheism, and monotheism. It has been shown that, by the admission of M. Comte clearly and explicitly made, this idea in as far at least as its origin is concerned rests on positive facts, on actual relations, on natural laws; and that in as far as the nature of the idea itself is concerned, while he considers it as expressing a mere fiction, he yet builds on that fiction the whole structure of his positive philosophy with all the confidence which the most stable truth could inspire. The purpose now is to establish that he is right in building upon this foundation as upon a truth, and that he is wrong in describing the truth upon which he thus builds as a fiction.

For this purpose let us first confine our attention to the earliest, the simplest, and the rudest form of theism, that of fetichism, and let us take M. Comte's account of the mental process which there takes place. In that low stage of development and of civilization, on the occurrence of some extraordinary phenomenon, thunder or lightning, wind or rain, ocean-storm or earthquake, the observer, not by a slow process of ratiocination, but by a sudden and instinctive intuition, transfers the conception of personality which he has acquired from his own voluntary acts to the elements which he sees or hears or

feels to be in convulsive agitation around or above or below him. To us at the present day those elements are inanimate, but they are not inanimate to him. He does not in imagination divest himself of his own personality to transfer it to them, but he ascribes to them a personality corresponding with that which he himself possesses and exercises. He animates them, that is, he believes them to be animated by a will similar to that which he knows to reside in himself. In this we all now know that he is mistaken, and there lies the fiction which M. Comte has correctly indicated. Fire and air, the winds and the waters, sunshine and storm, the forests, the mountains, and the caverns of the earth are not indeed endowed with a vital energy and a personal will of their own. But is the whole of the fetichist's conception a fiction? Is there no truth underlying the fiction which he thus frames for himself and giving it all the real power which it exercises over him? Is it not a truth that for the origination of that motion in the inanimate elements which he witnesses, a personality, a will is as necessary as when he himself by a single volition or by a series of volitions, raises an arm, protends a foot, or emits an articulate sound? Can the profoundest and most positive philosopher of the present day satisfactorily explain to himself or to others the commencement of motion in elementary matter without the supposition of will? We know that motion exists and that the human will produces motion ; but we know also that the human will does not produce and is utterly inadequate to produce all the motion that exists around us ; and it is not an elaborate deduction, but a simple and direct intuition

of the natural reason of mankind in the very lowest stage of culture that another will than that which is human must have produced that motion. In the supposed state of culture the idea of law does not enter the mind: there is no generalization. Every phenomenon stands apart, is conceived apart, and is explained apart from all other phenomena, and explained by the same process of thought; and hence on the one hand the multiplicity of objects of reverence, and on the other the approach to universality, the pantheistic aspect, the community of character that belongs to fetichism. But in the midst of this multiplicity of objects and community of character two elements appear to be clearly distinguishable, a fiction and a truth; the fiction which personifies the inanimate and deifies the animate and thus creates the evils of fetichism; and the truth which through this personification and deification recognizes a superhuman will and thus becomes a discipline to the understanding and the heart. Truth and error will always be combined in human thought. Pure and unmixed truth the mind can never hope to attain. On pure and unmixed error it cannot subsist. And yet we are required by M. Comte to believe that in fetichism there is nothing but unadulterated fiction. The error contained in fetichism is that kind of error into which in a feeble state of the intellect the mind might be supposed to fall. The truth it contains is that degree of truth which in such a state of the intellect the mind is capable of apprehending and appropriating with a gradually increasing clearness of perception and conception. That truth resembling rather a prolongation of the

mind's self-consciousness than constituting any approach to syllogism is that which vivifies, sustains, invigorates, and utilizes fetichism.

The same considerations may be employed in the explanation of astrolatry, the transition stage, according to M. Comte, from fetichism to polytheism. In so far as astrolatry coincides with fetichism, the former has the same elements of error and of truth that have been assigned to the latter. The error consists in the worshipper's ascription to the heavenly bodies of a personality similar to his own; the truth in his belief that where there is order, beauty, power, motion, there must be a personal will to originate that motion, to exert that power, to create that order and beauty. But in the progress of intelligence and speculation a period arrives when the mind becomes convinced of the purely material and passive nature of the heavenly bodies, withdraws the notion of personality from them, and transfers that notion to deities that are supposed to reside in and to animate them and to direct and control their movements and their influence. In this period there is not only a material sun, but a god of the sun also; not only a material moon, but a god or goddess of the moon; not only a material Mars, Venus, Jupiter, Saturn, but also deities of those bodies, each inhabiting and ruling his or her proper planet. This transference of personality from the material sun and moon and stars to deities supposed to occupy and govern them which is the commencement of polytheism, is nothing more than the substitution of one fiction for another. But the substitution of one fiction for another does not invalidate the truth which is perceived to

underlie both; the truth that motion must have a motor, order an orderer, action an agent, effect a cause; that the phenomena of the heavenly bodies must have originated and be sustained by the operation of a personal and intelligent will. To deny this would in the estimation of the astrolater be just as reasonable as to deny that it is the personal will of man that governs his movements and his acts when he cleaves the forest, or scales the mountain, or ploughs the ocean. When we endeavour to understand his process of thought we are obliged to collect and arrange facts, to compare the similar and to contrast the dissimilar, to analyze and to syllogize, to draw inferences and to sum up conclusions; but it would be a great mistake to transfer this process from our own minds to his. It is probable indeed from the nature of the case that the substitution of one fiction for another involved in the transition from fetichism by means of astrolatry to polytheism may have been the result of direct reasoning; but the belief in the truth which both the forms of astrolatry contain was then, as it is now, independent of all painful and circuitous elaboration, the instantaneous and inevitable expression of the mind's self-conscious activity. However overlaid and weakened by fiction, that belief in superhuman agency is the true and vital force of astrolatry as of fetichism.

The next stage in M. Comte's history of the theological state of the human mind is full-blown polytheism, in which personal deities of different attributes and functions, with different degrees of dignity, and in different spheres of activity, are supposed to engross the entire government of the world. It does not belong to

this place to enter into the details of any system of polytheism, Egyptian, Greek, Roman, or Hindu. Amid almost infinitely diverse forms of expression, the error and the truth of all are the same. The error consists in the attribution of personal qualities to imaginary beings; the truth concealed, not lost, under this pervading error is that the various effects in air, on earth, and under the earth ascribed to these imaginary gods are utterly unintelligible to human reason except on the supposition that a personal and intelligent will is concerned in producing, directing, and controlling them. This error and this truth have entered intimately and deeply into all the forms and phases of fetichism, astrology, and polytheism that have ever existed in the world, and they give a coherence and consistency to the whole course of human history which from no other point of view it can ever possess. Conceive with M. Comte that the theological state, the theological philosophy, the theological system, as he variously phrases it, is wholly fictitious, that all is phantasy and falsehood, no reality, no truth, in the fundamental principles of human belief and in the very mainsprings of human action. In that view what a blurred picture does history present! On what an insecure foundation does positive philosophy rest! Admit the explanation that has been offered and both philosophy and history become possible, because they have a basis of truth from which to rise. In that case we see error indeed largely and widely prevailing, but we see also a seed of truth planted from the first in the human mind, slowly, silently, and hiddenly seeking its natural nutriment, gradually emerging from the unfavourable influences by which it is sur-

rounded, and at last growing into bud and blossom and flower and fruit.

We thus arrive at M. Comte's ultimate form of the theological state, that of monotheism, which not less than the preceding he pronounces to be unreal and fictitious. In the preceding forms we find are contained both an error and a truth, an error inasmuch as they affirm the existence of imaginary gods, a truth inasmuch as they involve the existence of a personal and intelligent will. Why then, it may be asked, are we not to consider that monotheism contains the same mixture of truth and error? For the valid reason that this final form of theism contents itself with affirming the truth without the error. It affirms as fetichism, as astrolatry, as polytheism also did that the phenomena of the universe are inexplicable to human reason without the supposition of a will to originate and sustain those phenomena. But unlike fetichism, astrolatry, and polytheism, monotheism makes this affirmation simply, without attempting to divide that will into parts and parcels and to distribute it amongst a variety of agents. We cannot characterize personality more distinctively than by the power of willing. Where there is will there must be personality. But according to the profound conviction of the theist, proofs of will are to be found in every form of matter, of life, of thought; proofs of will which, call it what else you may, is entirely superhuman. This will he is compelled by the laws of his own mind to ascribe to a distinct personality, and this distinct personality he calls God. This is a conclusion which the actual phenomena not only fully legitimate but imperatively demand; while

they neither require nor permit him to assume various and conflicting personalities and wills, the supposition of which is as illogical in reason as it is pernicious in consequence. Thus on the one hand monotheism holds firmly to the truth contained in all the preceding forms of theistic belief, and on the other eschews the delusive and hurtful errors which they incurred. The monotheist claims that his conclusion is in the strictest sense positive since his belief is according to his deliberate judgment the only true interpretation of the most indubitable phenomena. In his view therefore there are only the most amicable relations between the pure form of theological, and the pure form of positive, philosophy. Any assumed hostility is the effect of misapprehension on the one side or on the other or on both. Theology, rightly understood, is positive. Positivism, rightly understood, is theological. As in the less advanced forms of theistic belief, the monotheist does not arrive at his conclusion by a slow and abstruse course of reasoning. The proofs are so numerous, they press him so much from every quarter and on every side, they come so close to his own consciousness that he would as soon think of attempting to reason himself and others into a belief of his own existence and will and personality, as into the belief of an existence, a will, and a personality superior to his own and to every thing human. And yet as the reality even of human existence, human will, and human personality, has been denied, it is not wonderful that the reality of the divine existence, will, and personality should also have been called in question, and that, in addition to the imme-

diates and intuitive evidence in favour of both, argument should be employed in their support.

In one obvious respect there is an important distinction attended by very important consequences between monotheism on the one hand, and on the other the antecedent forms of theistic belief. In fetichism, astrolatry and polytheism, the truth which they contain is imbedded almost buried in errors, its growth choked, its influence paralyzed. In monotheism the same truth is freed from that deleterious companionship, and although under the finite conditions of humanity its conception in the mind must always be imperfect, yet it has scope for growth and elevation with the growth of human knowledge and the elevation of human character. It has already been suggested that in monotheism that truth has passed through phases of which M. Comte takes no account (p. 149); and yet those phases are the interpretations and expressions of phenomena as positive as those to which he traces the origin of the theological philosophy. We have seen that he traces the origin of that philosophy to those primary natural laws which belong to individual or social acts (*l'ébauche spontanée des premières lois naturelles propres aux actes individuels ou sociaux*); and it follows, building on the same foundation, that the idea of God in the human mind will necessarily be modified, will descend to grossness or rise in purity and dignity, according to the nature of those individual and social acts, of those primary natural laws to which they are held to be subject, of the relations which are conceived to spring from them, and of the forms of character which they generate. If

for instance the human being lives a mere physical life and conceives of himself as capable only of physical enjoyment, as sustaining only physical relations, and governed only by physical law, it is inevitable that his mind should not rise higher than to invest the power above him with mere physical attributes. If by the operation of natural law, by the employment of individual effort, and by the aids of social life he acquires the conception of himself as an intellectual being, and lives in the predominating exercise of intellectual capacities, his idea of the power above him will as inevitably rise to that of a supreme mind governing mind as well as matter. If he rises still higher to the conception of himself as a moral being, possessing a moral nature, sustaining moral relations, and subject to moral laws, his idea of God will correspondingly rise to that of a moral ruler exercising moral authority over his moral creatures. The positive basis of the theistic idea in the human mind being taken for granted with M. Comte, that idea must in its distinctive features and in its successive phases correspond with the source from which it proceeds and the foundation on which it is built. It is impossible that a merely physically developed human being should conceive of God as a supreme mind ; or that a merely intellectually developed human being should conceive of God as a moral ruler. A genuine moral development includes both that which is physical and that which is intellectual, and it is the morally developed human being only who can rise to the conception of God as the source and support at once of all matter, of all mind, and of all morality. Let

us look more closely at these successive expansions of monotheism.

It has hitherto been assumed that all the phenomena which fetichism, astrolatry, polytheism, and monotheism have been employed to explain are physical phenomena; and in the earliest stages of human culture, these were the only phenomena that forcibly attracted attention and unremittingly demanded explanation. The phenomena to be explained were physical; the explanation given was physical. The fetiches of the earliest age were the elements of nature and terrestrial objects animate and inanimate. The gods of astrolaters were either the heavenly bodies themselves or the powers whose highest function was to direct their movements and distribute their influences. The divinities of polytheists were and are the creators, the preservers, the destroyers, and the renovators of the material universe. Even in monotheism the first and long the highest conception of the supreme will was that of an almighty One putting forth force, wielding power, warring down rebellious demons or equally rebellious men, punishing the former with the fiery tortures of Tophet, and overwhelming the latter with the physical catastrophe of a deluge. These were low and imperfect notions of the divinity, but they corresponded with the low and imperfect culture of the worshipper. Man is a physical being before he is anything else, stimulated by physical passions, pressed by physical wants, environed by physical obstacles, contending against physical enemies, aided by physical appliances; and as a necessary consequence he can raise his mind no higher than to

physical conceptions of the powers above him. But it should never be forgotten that these conceptions, however seemingly grovelling, express a truth, more obscurely in fetichism, in astrolatry, and in polytheism, more distinctly in monotheism, but in all a truth which, as all truth must be, is salutary in its effects. That truth is that physical phenomena and their laws are subject to powers or to a power higher than human. To call such a belief, even in its less advanced forms, atheism with Archbishop Whately is to confound things that differ: to call it with M. Comte a fiction is simply to contradict the patent facts of every day's experience and observation. The earliest worshippers felt what we still feel at the present day, they then expressed in their way what we now express in our way, that man is not all in all in this world; that there is a power above him that imposes necessities, prescribes conditions, determines the beginning and the end of his career, and many of the circumstances that intervene between its two extremes; and that to recognize this power is the irresistible dictate of a sound understanding and the healthy expression of natural feeling. That they limited the application of this general truth to the phenomena of physical nature and of physical existence was an inevitable result of their merely physical culture. It is still indispensable to give it the same special application even when we know that it has a wider scope.

Neither can individuals nor can society always live in physical conceptions and for physical ends. The time comes when the notion men acquire of the dignity of their own nature, gives the ascendancy in their estimation of themselves to the intellectual element above

the physical. In the physical stage of their development, from the conscious force of their own will in controlling their own physical movements, they had been led intuitively to infer the existence of a higher will that controlled the physical movements of the world around them, and they are now in like manner led by the intellectual energy which they feel and exercise themselves and of which they witness the possession and exercise by others, to infer the existence of a supreme will not only exerting force, but possessing intelligence. In ourselves we see, we know, we experience that mind exists, thinks and reasons, remembers the past, anticipates the future, compares and contrasts, infers and concludes, receives and communicates thought, observes facts and discovers laws, constructs sciences and philosophies, creates societies, politics, governments, institutions. To deny these products of mind were to deny our own existence, our daily life, and the habitual working of all that is within and around us. But the minds themselves that produce these effects, that elaborate these results, that contrive and execute, that reform and improve, and that are always straining after higher and still higher, deeper and still deeper, wider and still wider ranges of thought and speculation—what are they, whence do they come, how are they to be explained? These thinking, reasoning, planning, active minds constitute a large and most important class of phenomena of the most positive character of which positive philosophy in some form or another is required to give some account. Moreover, not only are these minds, their diverse phenomena, the effects they produce, and the complicated, subtle, and

yet uniformly consistent laws of their operation to be explained ; but there are also in the phenomena and laws of the material universe proofs of an intelligence transcending all human intelligence, and which it is the highest ambition and glory of the highest human intelligence imperfectly to apprehend. Positive philosophy cannot ignore the facts of human intelligence or the facts of an intelligence more than human, and it demands an explanation of both. The allegation by M. Comte of defects, real or imaginary, which his microscopic vision claims to have discovered in the planetary arrangements and in animal organizations, does not weaken this demand ; for if the defects are imaginary, the allegation of them only proves his own presumption ; if real, the intelligence that discovered them is still to be explained ; while even on the latter supposition they are so minute that they dwindle into triviality and insignificance when compared with the vastness and grandeur, the order and beauty and wisdom of all the other parts of the system of nature. Mind, then, is everywhere at work within and around and above and below us, and the genuine theistic positivist by the constitution of his nature feels himself placed under an imperative necessity of tracing all its forms and manifestations to one source. This is a great step in advance of the physical stage of monotheism. In that stage force was the highest capacity of man's nature that was called into requisition. It opened to him the only sphere he was competent to fill. It was the instrument for accomplishing the only ends he could conceive. And hence the divinity he worshipped was the personification of force, and force whether for the

purpose of punishment or reward, for the intimidation of enemies or the protection of friends, was the principal attribute with which the object of his reverence was endowed. To have conceived differently of God he must have risen above himself, above the circumstances in which he was placed and the influences that formed and moulded his character. But when those circumstances and influences are changed, his conceptions of the divinity are changed also, and in virtue of the predominance of intellectual over physical culture he is enabled to recognize that the God of his adoration possesses not only supreme power, but supreme intelligence; that mind, thought, wisdom, rules the universe; and that the mental efforts of the wisest of men are but feeble glimmerings from that centre of all light and of all truth. The mental process is the same in both cases, intuitive rather than ratiocinative; but differing in this, that the stage of culture in the one is physical, in the other intellectual; and that the result is in the one to conceive of God chiefly as the author of the material universe and of its laws, and in the other to conceive of him as the source of mind also and of the laws by which it is governed. Man henceforth becomes a denizen of two worlds, the world of mind and the world of matter, which claim over him equal and concurrent jurisdiction, while he in the depths of his intimate consciousness recognizes that he possesses capacities and sustains relations that ally him with both, and through both with that being who is at once the fountain of all material force and of all intellectual life.

There are two abusive forms of this intellectual state,

and they are here mentioned, both for the purpose of refuting the errors which they express, and for that of showing the place which they occupy in the history of religious belief. Both have been already briefly described as elements in the development of humanity according to M. Comte, one superseding the idea of God by that of nature, the other by that of law (pp. 143, 144); the former, the refinement of metaphysical speculation; the latter, the refuge of anti-theistic positivism.

M. Comte has frequently and justly remarked on the unsatisfactory character and tendencies of naturalism, but he does not appear clearly to have apprehended the basis on which it rests or the elements of which it is composed. To understand these, it is necessary to bear in mind the stage of monotheism at which man is assumed to have arrived. He has come to conceive of himself as possessing a twofold nature consisting of body and of mind, as subject both to physical and intellectual wants, and as exercising both physical and intellectual capacities and aspirations; and as a natural and necessary sequence he raises his mind to the conception of God both as the source of material force and the centre of intellectual life. But in himself he finds body and mind united in the same organization which ministers alike to his physical and intellectual wants, capacities, and aspirations; and he is thus led, under various forms of reasoning more or less abstruse, and under various forms of expression more or less obscure, to extend the analogy and to conceive of God as the great soul of the universe and of the universe as the vast embodiment of God. Thus all is God and God is all; and nature, the designation com-

mon to both, is at once active and passive, actively communicating force and life, passively receiving and obeying the force and life communicated. It is evident that this metaphysical refinement could never have been devised if the human mind had always remained in the physical stage of monotheism, since it is only by the combination of the physical and the intellectual conceptions of God that it acquires the semblance of support. And it is the semblance only, for a very little consideration will show that when regarded from the point of view which the antecedent forms of theistic belief present, it is a retrograde, not a progressive movement of thought; a degrading, not an elevating conception of deity. It is a retrograde movement of human thought, for the very terms that describe it prove that it is a universal fetichism, thus carrying humanity back to the very lowest form of theistic belief from which it has emerged. It is a degrading conception of the Divine Being, for it deifies matter as well as mind; baseness and vice and cruelty and crime, as well as justice and truth and purity and goodness.

The other abusive form of the intellectual state to which reference has been made, supersedes the idea of God by that of law. All intellectual effort applied to the solution of the theistic problem conducts either to an affirmation, or to a negation, or to a compromise between the two. The affirmation is theism; the compromise is naturism; the negation is anti-theistic positivism. Of anti-theistic positivism law is the last result and the highest principle, and M. Comte the great advocate and apostle. He is able to detect the deficiencies and expose the pretensions of

naturism : he is not able to perceive the self-contradictions and the baselessness of anti-theistic positivism, that is, of law without a lawgiver. We have seen that naturism makes of the universe a huge fetich, a mundane god, a divine world ; and thus of the error and the truth which the primitive fetichism contains, it adopts the error and rejects the truth, ascribing a fictitious personality to the world, and denying a real personality and an intelligent will to God. Anti-theistic positivism is less scrupulous and more consistent, and sternly sweeps away at one stroke the truth and the error alike. With naturism it denies all superhuman volition and intelligence. Against naturism it refuses all reverence for its world-god or its god-world. It acknowledges only phenomena and laws ; the special facts which are called phenomena, the general facts which constitute laws. Beyond these nothing is known, nothing is knowable. But its fearless inconsistency, however honest, is blind and deaf and dumb, for it does not deign to see or to hear or to explain any thing but what is consistent with its own assumptions. It affords no explanation of that intelligence which is intuitively seen and heard and felt and acknowledged in those very phenomena and laws which are the sole objects of its research, nor even of that human intelligence by which those phenomena and laws are apprehended ; and it startles and confounds the unbiassed inquirer by constructing, as has been shown, its entire apparatus of thought and speculation on that very truth which it ostentatiously denounces as a fiction. Still further, even in the conception of law no advantage is gained ; but on the contrary a disadvantage is incurred

by anti-theistic positivism. No advantage is gained, for the conception of law in theistic positivism, to say the least, may be and is as clear, as strong, and as well-defined as on the opposite theory: a disadvantage is incurred, for in anti-theistic positivism while law is affirmed, the sole adequate support of law is removed, and by inevitable consequence the belief in its stability shaken. The conclusion is that naturism and anti-theistic positivism are both retrograde movements of the intellect; that in so far as they are anti-theistic they afford no aid towards the solution of the most difficult problems of human existence; and that on the contrary they either confuse and obscure our notions of man, of the world, and of God, or leave wholly unexplained and inexplicable their mutual relations.

Does intellect furnish the highest conception of God? Can we form no higher idea of God than as mind, the seat, the centre, and the source of thought? The answer to these questions is found in raising ourselves to a just conception of the capacities of our own nature. Is intellectual power the highest capacity of that nature? When all the ideas in the human mind have been brought into the strictest logical sequence, has man attained all the perfection of which he is capable? The pertinence of the answer derived from this source will be perceived, when it is considered that it is the same positive source from which all the previous forms of theistic belief have been drawn. Man feels a vital force within himself, and transfers the idea of that force to the external world: hence fetichism. He invests the principal manifestations of that force with distinct personality: hence polytheism. He concentrates all these

personalities in one: hence monotheism. In these changes it is assumed that he lives a life predominantly physical, and therefore whether he worship fetich, gods, or God, his worship is the worship of force. The form of his own character determines the form given in his mind to the character of the power he adores. But he does not always live a mere physical life. He learns to think, and thinking becomes the confirmed habit of his mind and the leading feature of his character; and in this as in the preceding state, he transfers this elevated conception of his own nature to the great object of his worship. God is no longer the mere author of force, but also of mind, of thought, of intelligence. The question then recurs, Does the process stop here? Can we think no higher of ourselves than as embodied intellect? No higher of God than as incorporeal spirit? No higher of either than as merely perceiving the relations of ideas without regard, for instance, to the moral qualities of those relations?

To illustrate this difference, let us suppose a person who is able clearly to apprehend that the relation of two to four is the same as that of four to eight. In this perception the intellect alone is concerned; that is, the relation alone is contemplated, not any moral quality of the relation. The relation is pronounced true, not good or bad. There is no moral sentiment, no sentiment of approbation or of disapprobation, connected with it in the mind. Suppose now, the same person able clearly to apprehend that the relation of vice to misery is the same as that of virtue to happiness. It is quite possible to contemplate this relation also from the same point of view, that is, with the in-

telleet only, without any reference to the moral quality of the relation, pronouncing the relation true, not good, and not accompanying it with any sentiment of moral approbation. In that case since the person supposed takes into account only the relation, not the moral quality of the relation, since he regards the relation only from the intellectual, not from the moral, point of view, he must be held not to have attained to a perception of his own moral capacities and destinies, and by necessary consequence to be as yet destitute of a perception of the moral character and government of God. The two perceptions go hand in hand : the latter cannot exist without the former ; and as certainly the former will produce the latter. Suppose, then, once more, that the individual in question clearly and fully, profoundly and earnestly, apprehends not only the relation, but the moral quality of the relation ; that it constitutes a law indelibly engraven on his whole being to deter from that which is morally evil, to attract to that which is morally good ; and that in common with all human kind he is subject to the law which this indestructible moral relation expresses. In this case, what a volume of instruction, full of warning and of wisdom, does it open for his perusal ! What a grand and ennobling revelation does it make to him of himself, the dignity of his nature, the reach of his faculties, the destinies of his race ! Above all, what a grander and still more ennobling revelation does it make of the Being who established that relation, who constituted that nature, who impressed that law, and of whose character that relation, that nature, and that law may be accepted as the expressions ! Henceforth man conceives of himself not only as a sentient

being having material wants, not only as a thinking being having intellectual capacities, but also as a moral being sustaining moral responsibilities. From his own physical nature he had inferred the existence of a power greater than himself producing all physical phenomena. From his own intellectual nature he had inferred the existence of mind transcending his own and giving birth to all the phenomena of thought. And now from his own moral nature he infers with the same intuitive conviction the existence of a moral ruler to whom he and all moral beings are subject. The process of thought is identical in each case; the conclusion is irresistible in all; and the result is to fill the mind with the most positive, the most sublime, and the most salutary conception by which it can be penetrated and possessed, the conception of God controlling all matter, informing all mind, inspiring and educating all goodness.

It will be seen that in this section no attempt has been made to construct a regular argument in support of the existence of a supreme will. The history of the formation of the idea of God in the human mind, as given by M. Comte, has been assumed, and it has been shown that the true analysis and just interpretation of the facts of that history not only do not prove that the idea is a fiction, as he uniformly asserts, but afford strong ground for believing that it is a profound and essential truth; and that by plain and indisputable concessions which he himself has made its truth must even be deemed indispensable to the soundness and stability of his own positive philosophy. The anti-theist is the assailant, and therefore the position that has been taken is not offensive but defensive. The assailant is pre-

eminently a positivist, theoretically the most positive of positivists, and therefore the process of thought to which appeal has been made is that which he himself has furnished, and which in its primary element is positive, not speculative; immediate, not mediate; instinctive, not reflective; intuitive, not ratiocinative. On this ground alone, without the aid of direct and formal argument, the mind may arrive, in accordance with its primitive and fundamental faculties, at an assured conviction of the existence of a supreme intelligent will working in nature, life, and society. It is worthy of consideration whether this is not the true basis of all theistic belief whatsoever; whether all the direct and formal arguments, *à posteriori*, *à priori*, or *moral*, in so far as they possess real value, do not resolve themselves into this process of thought; and whether it does not possess that character of universality which is appropriate to so great a truth, and which adapts it to the apprehension and appreciation of all men in every condition of life and in every grade of culture.

Whether the appeal is made to intuition or to reason, it would be self-deceptive to hold that by either the one or the other form of thought we can completely bridge the space that separates the finite from the infinite, the conditioned from the unconditioned, the imperfect from the perfect. Intuition, resting on strictly positive grounds, the physical, intellectual, and moral facts of human consciousness, by a natural logic as instantaneous as it is convincing, leaps to the conclusion that man and the world in which he lives are embraced and ruled by a power, an intelligence, and a moral will transcendently superhuman. On the one hand it is

maintained that no reasoning can disprove this conclusion, because it does not spring from reasoning, but from the primary and fundamental perceptions of the mind of man, perceptions as primary and fundamental as those which establish that he himself exists. On the other hand it must be admitted that this conclusion falls short of the wants of humanity which earnestly seeks repose and strength in the belief of a being, not merely superhuman, but infinite in all perfection. Such a belief, the necessarily limited scope of our experience and observation and of the positive phenomena that come within our knowledge, does not and cannot create. The imperfect cannot produce belief in the perfect, the conditioned in the unconditioned, the finite in the infinite.

If to obtain the guidance which intuition does not supply we have recourse to reason, it may be deemed to carry us much farther, from the same foundation to build higher the temple in which we worship, and to invest with a loftier sanctity the Being whom we adore. Reason is not the reason of one man, or of many men, or of all men. It is the true perception of the real relations of all beings and existences, independent of all individual consciousnesses, experiences, observations, reflections, and reasonings; and when man has made his individual reason to coincide with this universal reason, he may justly suppose that he has attained a point of union between the conditioned and the unconditioned, the finite and the infinite—that while his feet touch the earth his spirit communes with the eternal. This is not a mere phantasy, but a truth striking its roots deep into the soul of man, and rising high towards the throne of God, for this universal reason finds its congenial soil in

man, and man finds in God its seat, its centre, and its fulness. Its resting-place is in man ; its home is in God. If man ceased to exist, universal reason would still be ; but on the contrary, the conception of universal reason demands the supposition of the existence of a being in whom it inheres and of whose nature it is the expression. Such a being is God, and thus the conception of universal reason seems to raise us still nearer to the conception of one who is its necessary source. Yet there is this alloy with the pure gold, this deduction from the practical value of the conception of universal reason when regarded as a means of raising the mind to a belief in God, that from the necessary imperfection of human nature our notions of what constitutes universal or right reason are often very loose and indeterminate, and that the deductions from those notions cannot but partake of the same character and be proportionately weakened. When we endeavour to discover what universal reason teaches and to bring our individual reason into subjection to it, we can do so only by reasoning, and what can be established by reasoning may be overthrown by reasoning. What appears to one man consistent, appears to another inconsistent, with right reason, What to one man appears the dictate of universal reason, to another is that of private and individual reason. To ascend by the individual reason, that is, by reasoning, to the universal reason in which there is no reasoning, is impossible. In the ascent there is a limit reached which is impassable to the highest human faculties. The gulf between the finite and the infinite, the conditioned and the unconditioned, always remains.

In the inability both of intuition and of reason to

cross this gulf, are we to assume that the unconditioned and infinite one does not exist? This would be to fall into the grave error of assuming that our conceptions are the sole measure of reality; that whatever we conceive must be real, and that whatever is real must be within our conception. The former proposition may be true, the latter must be false. All our conceptions probably have some real foundation, for although we may form the unreal conception, for instance, of a mountain of pure gold, yet the elements of that conception, mountain and gold, are real. But it does not follow that whatever is real must be within our conception and that what is not within our conception must be unreal. This would be to subordinate, not man to the universe, but the universe to man, a source of error on which M. Comte has largely and justly dwelt. It would amount in truth to the deification of man, not merely to his apotheosis after death, but to his deification while still living, making him the sum of all being. But while on the one hand we guard against this error, how are we on the other to distinguish the inconceivable reality whom we call God from the conceivable unrealities of fetichism and polytheism with which M. Comte confounds that reality under the common category of fictions? What processes of thought, what faculties of the mind are called into requisition in adhering to that reality while we reject these unrealities?

One man can speak for one man only; and what may satisfy the judgment and conscience of one may not satisfy those of another. It may err on the side either of credulity or of incredulity, of extreme facility or of extreme tenuity of belief. Without seeking therefore to express

more than individual conviction and without desiring to impose that conviction upon others, the following may be offered as a brief summary of the whole case. By the intuitive process already described, on the strongest grounds of positive philosophy, the mind arrives at an assured conviction of the existence of a power, an intelligence, and a will altogether superhuman, a conviction as assured as that which man has of his own existence. At this point without going one step farther, for the thinker who accepts this conclusion, M. Comte's theory of law without a lawgiver, of anti-theistic positivism, is wholly and for ever negated. Henceforth for such a thinker positive philosophy must be theistic. Proceeding onward in the exercise of reason, that is, of human reason or of reasoning, the mind arrives at the still higher conviction of a universal reason of which occasional manifestations are made even through the feeble faculties and the dim conceptions of man, but which finds its permanent seat and its most glorious revelations in that superhuman power, intelligence, and will before apprehended. That power, intelligence, and will are regarded as expressions of the universal reason, and that universal reason is a brief and simple enunciation of an unconditioned and infinite personality, obscured to our conceptions only by the necessary imperfection of our intellect and our defective moral culture. The imperfection of our intellect is an insuperable and irremovable barrier; but in this emergency the moral element comes into operation to purify, to elevate, to brighten, and to intensify our conception of God. Intuition is phenomenal and positive: its conclusions through the objects of consciousness



and perception can reach only to the superhuman. Human reason, that is reasoning, is intellectual and speculative, and while it deals with the highest conceptions, its conclusions must partake of the weakness and limitation of the human faculties. But the moral element in man is the human expression, not of the human reason only, but of the universal reason, and just in proportion as that element is developed, cultivated, and matured, the mind rises to higher and holier and worthier conceptions of God.

It cannot be maintained and it is not affirmed that the anti-theist is necessarily immoral. This would be to contradict patent facts and to calumniate the virtuous unbeliever : the moral element in man is too deeply seated to be dislodged by any intellectual belief or misbelief or disbelief whatsoever. But it is affirmed and it may be successfully maintained that the moral element is the only solid foundation on which faith in God as the all-perfect one can be built ; that in proportion as moral culture is deepened and widened and strengthened, faith in God will grow with its growth and strengthen with its strength ; that in proportion as moral culture, individually or socially, is neglected, faith in God, personal and national, will become weak and wavering, formal and unpractical ; that by a reflex operation in proportion as faith in God, as the moral ruler of the universe, is shaken, private and public morality will be shaken also ; and that in proportion as that faith is on just grounds profoundly impressed on the general conviction, moral culture will be extended, moral objects and ends promoted, and man will rise to a true appreciation of his own high moral dignity and destiny. Faith in God as

mere intellectual belief has no more value or force than any other doubtful or disputable speculation of the understanding: it possesses all the virtue which theists and theologians ascribe to it solely in consequence of the moral relations which it recognizes, expresses, and enjoins. And this intimate connection between faith and morality is itself an additional proof of the reality of the object of faith, for without such an object where would be the basis of that morality the obligation of which theists and anti-theists unite in affirming? Thus to the theist God becomes, instead of a figment of the imagination, a solemn and sublime reality; the source of all being and the support of all morality; to whose existence our own moral nature with an ever-increasing distinctness of utterance constantly testifies; and whose idea is indissolubly interwoven in all the multiplied mazes of life, of society, and of history. It is not merely, as has been said, that we see in God a reflection of ourselves. This is only a part of the truth. The other half is that we also see in ourselves a reflection of God. First, from the contemplation of our own nature we ascend to an imperfect knowledge of God; and next from the height thus attained we with better knowledge and greater confidence interpret the phenomena of our own nature. There may or may not be other beings, other worlds, and other systems exhibiting more perfect representations of the divine attributes; but we can conceive of God only by the aid of those rays of heavenly light that have been permitted to penetrate our own glassy essence.

When we arrive at the conviction, first of law, and then of will, the question arises whether they can co-

exist, whether they are not incompatible, whether they do not neutralize each other. No one who closely considers this question will refuse to admit that there are difficulties belonging to it which he cannot wholly solve. All that we can do is to place ourselves in direct relation with the undoubted facts of our existence and to put upon those facts the most consistent interpretation of which they appear to us susceptible, not forming fanciful notions of what ought to be, but true notions of what is. There are two sides of this question, according as it is assumed or affirmed that law negatives will or that will negatives law, the latter being the assumption of certain theists, the former the affirmation of positive anti-theists. That law negatives will is an unsupported assertion which gains no additional strength by M. Comte's frequent reiteration of it. The proofs of necessary law and of an intelligent will in our experience and observation remain undeniable, and no hardihood of assertion can annul them; and when an attempt is made to bring both into logical connection, the mind not only without violence to its powers but on the contrary with a clear perception of necessary congruity, believes that law must proceed from a lawgiver, beneficent laws from a moral ruler. To disjoin an intelligent will from necessary law is to shake our confidence in the perpetuity and salutary operation of law itself. On the other hand the assumption sometimes made by theists that will on occasion supersedes, over-rides, estops law, is inconsistent with the idea of perfection and immutability which enters into our conception of God, so that we can no more coherently conceive of will without law than of law

without will. The conception of law without will is that of agency without an agent: the conception of will without law is that of an agent without agency. Law and will therefore in virtue of the very nature of the joint conception of them formed in the mind are not to be apprehended as standing opposed in their nature and as counterworking each other in fact. The divine will is constantly expressing itself in necessary law. Necessary law is the constant expression of the divine will. It is not denied that in this mode of conceiving law and will there are practical difficulties arising out of the physical ills, the intellectual errors, and the moral obliquities of human life. No ingenuity can wholly remove, no theory can fully explain, these difficulties. But it is believed that they will be gradually lessened in force and at last disappear in substance in proportion as every individual mind becomes practically imbued with the conviction of the moral ends of life, the moral destinies of humanity, and the moral government of God.

The conclusion at which we have thus arrived may be resolved into two propositions; *first*, that from the phenomena of the universe the existence of their causes, and therefore of their primary cause, that is, of God, may be legitimately inferred; and *second*, that from the attributes of the phenomena something may be legitimately inferred respecting the attributes of their causes, and therefore of their primary cause, that is, of God. Both these propositions have been denied; but while the denial of the former involves the denial of the latter, the denial of the latter does not involve the denial of

the former, and they require therefore to be separately considered.

The most uncompromising opponent of the former proposition is M. Auguste Comte, who, throughout his work on Positive Philosophy, maintains that the causes, whether primary or final, of phenomena and their modes of production, are inaccessible to the human faculties, and do not therefore constitute legitimate objects of scientific or philosophical investigation, and that the only legitimate objects of such investigation are facts and their laws; that is, their constant relations of succession or of similarity. Mr. Mill has in one passage given in his adhesion to this doctrine,* and has defended M. Comte from the alleged misapprehension of Mr. Whewell, who is represented as having erroneously assumed that by excluding the investigation of causes, M. Comte had excluded that of all the most general truths. It may readily be admitted that M. Comte has shown himself, notwithstanding his doctrine of causation, both willing to discuss and able to elucidate some of the most important general truths; but there is one which that doctrine directly leads him to negative, viz. the being of a God, which, if regarded as resting on tenable grounds, must be pronounced the most general of all truths. Does Mr. Mill mean, what M. Comte certainly means by his doctrine of causation, to refuse all recog-

* "I most fully agree with M. Comte that *ultimate*, or in the phraseology of metaphysicians, *efficient* causes, which are conceived as not being phenomena, nor perceptible by the senses at all, are radically inaccessible to the human faculties: and that the 'constant relations of succession or similarity' which exist among phenomena themselves (not forgetting so far as any constancy can be traced, their relations of co-existence) are the only subjects of rational investigation. When I speak of causation, I have nothing in view other than those constant relations." Mill's System of Logic, i. 422.

dition of God as the *efficient* cause of the universe? Or, which is more probable, does Mr. Mill mean that all we know of God is and must be derived from the constant relations of succession or of similarity among phenomena? If the latter, then this includes an admission of the existence of God, and Mr. Mill is not so much in accord with M. Comte as the passage cited would imply. If the former, then Mr. Mill is not in perfect accord with himself; for in another passage he admits the simple existence at least of a noumenon, an unknown cause, and yet an *efficient* cause, of certain given phenomena, a noumenon too, independent of, and contradistinguished from, those phenomena.* M. Comte holds it to be unscientific and unphilosophical to take any account whatsoever of causes, above all, of a primary cause. Mr. Mill, on the contrary, when he is not defending M. Comte or controverting Mr. Whewell, but expounding his own doctrine in his own name and on

* "Sequences and co-existences are not only asserted respecting phenomena; we make propositions also respecting those hidden causes of phenomena which are named substances and attributes. A substance, however, being to us nothing but either that which causes, or that which is conscious of, phenomena; and the same being true, *mutatis mutandis*, of attributes; no assertion can be made at least with a meaning concerning those unknown and unknowable entities (*beyond their mere existence*) except in virtue of the phenomena by which alone they manifest themselves to our faculties. When we say Socrates was contemporary with the Peloponnesian war, the foundation of this assertion, as of all assertions concerning substances, is an assertion concerning the phenomena which they exhibit, namely, that the series of facts by which Socrates manifested himself to mankind and the series of mental states which constituted his earthly existence, went on simultaneously with the series of facts known by the name of the Peloponnesian war. Still, the proposition does not assert that alone; it asserts that the thing in itself, the noumenon SOCRATES, was existing, and doing or experiencing those various facts, during the same time. Co-existence and sequence, therefore, may be affirmed or denied not only between phenomena, but between noumena, or between a noumenon and phenomena. And there is one kind of assertion which may be made respecting noumena, independently of the phenomena which are their sensible manifestation; the assertion of their simple existence. But what is a noumenon? An unknown cause. In affirming, therefore, the existence of a noumenon, we affirm causation." System of Logic, i. 134, 135.

his own behalf, clearly teaches that it is perfectly consistent with sound reason and good logic to make propositions affirming or denying the existence, the mere existence, the simple existence of a noumenon, an unknown cause, an unknowable entity, such as the noumenon Socrates, which was a thing in itself distinct from the facts of his life, and conceivable as existing and doing or experiencing those various facts which were its sensible manifestation. We thus acquire from Mr. Mill, in opposition to M. Comte, the admission that it is compatible with strictly logical forms of thought and within the domain of science and philosophy, to treat of the causes of phenomena as well as of phenomena themselves, and to affirm or deny propositions respecting the existence at least of such causes, considered as noumena only, apart from phenomena, unknown causes, unknown and unknowable entities.

No other or better foundation is required on which to build a stable theistic belief. M. Comte exclusively recognizes phenomena and their relations, and by necessary consequence rejects the consideration of noumena as causes and of the relations which they sustain. He broadly denies that from the phenomena of the universe even the simple existence of such a noumenon as we call God can be legitimately inferred. To make such a proposition, he holds to be beyond the province of reason; to draw such an inference, to be neither sound in logic nor true in fact. The rationality of this conclusion will be best estimated by applying the principle which it involves to the interpretation of some plain proposition, that for instance which has been already cited from Mr. Mill: *Socrates was contemporary with the Peloponnesian*

war. According to M. Comte, this proposition affirms the co-existence of the phenomena constituting the life of Socrates, with the phenomena constituting the Peloponnesian war; but it affirms nothing more, nothing at all respecting the thing itself, the noumenon Socrates, as at least existing and doing or experiencing those phenomena. In this view, the phenomena of the life of Socrates form legitimate objects of investigation; but even the existence of the noumenon Socrates is ignored. The hidden, invisible, unknown cause of those phenomena is regarded as if it did not exist, and its existence is held to form no legitimate object of scientific or philosophical inquiry. Those and those only who accept this as a just conclusion, will be satisfied with the further proposition that the phenomena of motion, of order, and of life exist in the universe, but that we are not called upon to refer them to a noumenon, a hidden, invisible, unknown, and unknowable cause. If the phenomena of the life of Socrates demand a noumenon, so do the phenomena of the universe. If it is irrational and absurd to deny such a noumenon as the unknown cause of the phenomena of the life of Socrates, much more irrational and absurd is it to deny such a noumenon as the unknown cause of the phenomena of the universe. This conclusion alone constitutes the essential principle of theism. He who believes in the existence of a cause of all things, however otherwise unknown and unknowable, a cause whose existence binds in co-existence and sequence all the phenomena of the universe, is a theist.

While M. Comte denies the former of the two propositions that have been stated, Mr. Mill denies the latter only. He admits, as we have seen, the simple existence

of noumena as unknown causes, unknown and unknowable entities, and even the relations of co-existence and sequence between noumena, and between a noumenon and phenomena; but he also affirms, that *all we know* of objects is the sensations which they give us and the order of the occurrence of those sensations, and that there is no affinity between the sensible qualities of those objects and their inherent nature.* In support of this view he cites the names of Berkeley and Locke, of Kant and Brown, and quotes the authority of Cousin; and he extends this doctrine from matter or body to mind, of which, considered in itself, he affirms that we can predicate nothing but the series of its own feelings.†

* "*All we know* of objects is the sensations which they give us and the order of the occurrence of those sensations."—"There is not the slightest reason for believing that what we call the sensible qualities of the object are a type of any thing inherent in itself, or bear any affinity to its own nature. A cause does not, as such, resemble its effects; an east wind is not like the feeling of cold, nor is heat like the steam of boiling water; why then should matter resemble our sensations? why should the inmost nature of fire or water resemble the impressions made by these objects upon our senses? And if not on the principle of resemblance, on what other principle can the manner in which objects affect us through our senses afford us any insight into the inherent nature of those objects? It may therefore safely be laid down as a truth both obvious in itself and admitted by all whom it is necessary to take into consideration that of the outward world we know and can know absolutely nothing, except the sensations which we experience from it." *System of Logic*, i. 78-81.

† "As our conception of a body is that of an unknown exciting cause of sensations, so our conception of a mind is that of an unknown recipient or percipient of them; and not of them alone, but of all our other feelings. As body is the mysterious something which excites the mind to feel, so mind is the mysterious something which feels and thinks."—"On the inmost nature of the thinking principle, as well as on the inmost nature of matter, we are and with our human faculties must always remain entirely in the dark. All which we are aware of even in our own minds, is a certain 'thread of consciousness;' a series of feelings, that is, of sensations, thoughts, emotions, and volitions, more or less numerous and complicated. There is a something I call myself, or by another form of expression, my mind, which I consider as distinct from these sensations, thoughts, &c.; a something which I conceive to be not the thoughts, but the being that has the thoughts, and which I can conceive as existing for ever in a state of quiescence, without any thoughts at all. But what this being is, although it is myself, I have no knowledge, further than the series of its states of consciousness. As bodies manifest themselves to me only through the sensations of which I regard them as the causes, so the thinking principle or

It is evident that this view of our necessary ignorance of the inherent nature of objects must be deemed to apply not only to mind as well as to matter, but *a fortiori* to the divine mind as well as to the human, and that applied to the former it has a direct bearing on the theistic conclusion to which we have been conducted by the preceding investigation. Let us inquire what that bearing is.

The first thing to be noticed in Mr. Mill's statements on this question is, that in affirming our ignorance of the inherent nature of things, whether material or mental, he does not deny, but on the contrary distinctly affirms, the existence of those things themselves, that is, of matter and of mind. The one thing which may be asserted of a noumenon, independently of the phenomena which are its sensible manifestation, is its existence. Body, although an unknown, is a real exciting cause of sensations. Mind, although an unknown, is a real recipient or percipient of those sensations and of all our other feelings. Body, however mysterious, is a real something which excites the mind to feel. Mind, however mysterious, is a real something which feels and thinks. He apparently accepts the doctrine of Kant, that there exists a universe of "things in themselves" (noumena), totally distinct from the universe of phenomena or of things as they appear to our senses; and he believes that there is a something which he calls himself or his mind, distinct from his sensations, thoughts, emotions, and volitions, a something which is

mind in my own nature makes itself known to me only by the feelings of which it is conscious. I know nothing about myself save my capacities of feeling or being conscious (including of course thinking and willing)." *System of Logic*, i. 81, 82.

not the thoughts but the being that has the thoughts. In the same way the theist, while admitting that he knows nothing, and can know nothing, of the inmost nature of the divine being, may logically affirm that his existence is as certain as that of the matter of our own bodies and of the percipient and thinking principle within us. He that denies the existence of the informing mind of the universe must also consistently deny the existence of body, the mysterious something which excites the mind to feel, and of mind the mysterious something which feels and thinks. He that believes in the existence of body and of mind may, and consistently must, believe also in the existence of God.

The second point to be noticed in Mr. Mill's statements is, that our alleged necessary ignorance of the inherent nature of matter and mind does not prevent him from ascribing the attributes of quality, quantity, and relation, including the relations of succession and simultaneity, of likeness and unlikeness, to those substances. It is true that he carefully notes that by the attributes of bodies he means nothing more than the sensations which they excite in us or others; and by the attributes of mind, the states of the mind itself and the thoughts or emotions which it excites in other minds. Thus the quality of whiteness ascribed to an object is merely a form of language by which we express the sensation of white which the presence of that object excites; the quantity of an object, a form of language to express the sensation of more or less when compared with some assumed standard; the relation of any two objects, a form of language to express some fact or phenomenon into which they both enter as parties con-

cerned; and the relations, in particular, of succession and simultaneity, of likeness and unlikeness, forms of language to express our own states of consciousness respecting the related objects which are said to exist in succession or together, to be like or to be unlike. In short, the distinction made between the properties of things and the sensations we receive from them, is held to originate merely in the convenience of discourse, and not to belong to the nature of the things themselves. The attributes ascribed to minds as well as to bodies are maintained to be wholly and solely grounded upon states of feeling or consciousness in ourselves, without any knowledge of the internal constitution of body or of mind itself. Let all this be fully admitted: let it be fully admitted that it is only through the medium of our own sensations, perceptions, and states of consciousness, that we know anything of the properties of objects, and that the descriptions of those properties may rather be considered as descriptions of our own sensations, perceptions, and states of mind. Still, with this unqualified admission, it must not be forgotten that those properties, whether of mind or of matter, are real and not fictitious conceptions of the mind; that is, not only real conceptions *in* the mind, but conceptions of realities *outside* of the mind. The supposed sensations and states of consciousness in any given case do not spring up in the mind self-originated, nor are they originated by the mind itself, but by the terms of the supposition they are derived from external objects, each of which produces a special class of sensations and mental states. Not only then are those sensations and mental states real, but the objects themselves, however inscrutable to us their in-

most nature, and their attributes however peculiar, unresolvable, and inexplicable, are not less real; for, in the language of Mr. Mill (i. 74), "we can no more imagine a substance without attributes than we can imagine attributes without a substance."

To apply this to the question under consideration. As, on the sole grounds of sensation and consciousness, attributes are ascribed to matter and to mind, without pretending to understand or explain the inmost nature of either, so the theist affirms that the contemplation of the phenomena of the universe compels him to ascribe to the divine being attributes of power and wisdom and goodness, grounded solely upon the states of feeling and consciousness in his own mind without irreverently pretending to penetrate into the arcana of the divine essence. If the principles of logic permit us to ascribe attributes to the mysterious something called matter which excites the mind to feel, and to the mysterious something called mind which feels and thinks, attributes grounded on the states of our own feelings and consciousness, it cannot be deemed illogical on the same grounds of feeling and consciousness, to ascribe to the mysterious something called God those attributes of greatness and of goodness that are suggested to our minds by the phenomena of the universe. If the attributes ascribed to matter, that is, the sensations derived from it, teach us that matter, however incomprehensible in its nature, is something real in itself; if the attributes ascribed to the human mind, that is, its own states of consciousness, convince us that the mind, although equally incomprehensible in its nature, is also something real in itself; why should not

our mental perceptions of superhuman phenomena conduct us to the belief of a still greater reality than either possessed to our apprehension of corresponding attributes, although the internal constitution of that reality is hidden from us, like that of our own minds, in the deepest mystery?

In the two preceding considerations we have a strictly logical basis supplied by Mr. Mill for theistic belief; first, for a belief in the simple existence of God, and second, for a belief in those attributes which actual phenomena permit us to ascribe to him, both beliefs grounded, not on a pretended knowledge of what he is in himself, but on a real knowledge of what he is in relation to us and to our own states of consciousness and perception. Belief in the existence and attributes of God rests on foundations precisely similar to those on which rests belief in the existence and attributes of the substances called matter and mind. On the supposition that we know nothing of matter and of mind in themselves, we yet rationally may and do believe in their existence and attributes: on the supposition that we know nothing of God in himself, we yet rationally may and do believe in his existence and attributes. To deny the existence and attributes of matter or of mind, or to deny the existence and attributes of God, is equally in each case to deny our own sensations and mental states. This conclusion will remain, whatever difference of opinion may exist respecting the remarks that are to follow.

The third consideration to be suggested on this subject is whether the statements made by Mr. Mill and M. Cousin respecting our total ignorance of the inherent

nature of things, although mainly just, do not require some qualification, a qualification indeed furnished by themselves in seeming, if not in real, contradiction. Thus M. Cousin says* that we do not know what causes are in themselves, and that reason even forbids the inquiry, but, he adds, it is very evident, *à priori*, that they are not in themselves what they are in relation to us, since the presence of the subject necessarily modifies their action. That is, he first affirms that we do not, and then in the same breath that we do, know causes in themselves, for to know by *à priori* reasoning that they are *not* in themselves what they are in relation to us is surely to know something respecting them. If all that we know of A is that it is not B, this certainly tells us nothing of what the nature of A is, but it does tell us what the nature of A is not, and thus by a negation it is at least the first step towards an affirmative knowledge of A.

Mr. Mill makes still more explicit admissions, scarcely consistent with our alleged total ignorance of the inherent nature of things. Thus, arguing against entities *per se* called qualities which he identifies with the exploded occult causes of the schools, he says that the cause which excites in us any given sensation, as that of whiteness, is not the presence of a distinct entity called a quality, the quality of whiteness, but the presence of the white object itself, and that to explain why the presence of this object causes this sensation he can only affirm that such is his own nature and the

* "Nous ne savons pas ce que ces causes sont en elles-mêmes, et la raison nous défend de chercher à le connaître : mais il est bien évident *à priori*, qu'elles ne sont pas en elles-mêmes ce qu'elles sont par rapport à nous, puisque la présence du sujet modifie nécessairement leur action." Quoted by Mr. Mill, i. 79.

nature of the object.* Is not this a distinct assertion that we know something both of our own nature and of the nature of the object? a knowledge, it is admitted, grounded solely upon the sensation, but extending forward through the sensation to a knowledge both of the nature of the object communicating and of the subject receiving the sensation. From this source we know respecting our own nature that we are capable of receiving from that object just that sensation and not its opposite when our organs are in a normal state, and respecting the nature of the object that when it is present it is capable of communicating just that sensation and not its opposite. When we know this, can it be justly said that we know nothing, absolutely nothing, except the sensations we experience from objects, nothing respecting our own nature as percipient beings, and nothing respecting the nature of the objects we perceive?

Again, in a passage already quoted (p. 198), Mr. Mill, in framing a definition of mind, while he asserts our utter ignorance of the inmost nature of the thinking principle as well as of the inmost nature of matter, describes mind as the mysterious something which feels and thinks as contradistinguished from

* "When we say that snow is white because it has the quality of whiteness, we are only re-asserting in more technical language the fact that it excites in us the sensation of white. If it be said that the sensation must have some cause, I answer, its cause is the presence of the object. When we have asserted that as often as the object is present and our organs in their normal state, the sensation takes place, we have stated all that we know about the matter. There is no need after assigning a certain and intelligible cause, to suppose an occult cause besides, for the purpose of enabling the real cause to produce its effect. If I am asked, why does the presence of the object cause this sensation in me, I cannot tell: I can only say that *such is my nature and the nature of the object*: the constitution of things, the scheme of the universe will have it so." *System of Logic*, i. 85.

body the mysterious something which excites the mind to feel. But when we know that body excites the mind to feel without itself feeling, and that mind both feels and thinks and excites to feeling and thinking, it surely may be said that we know something of the inmost nature of both, that we know not only a difference between the effects of body and mind, but by means of those effects a difference between the natures of body and mind themselves. If there was no difference in themselves known to us, then the effects to us might be interchangeable, whereas we know that while mind, like body, may excite mind to feel, body cannot, like mind, itself think and feel. With this recognized difference, how can it be said that we are entirely in the dark respecting the inmost nature of body and mind? We know at least as much as that difference expresses. In the same passage Mr. Mill explains the particulars which that difference includes. "I know nothing about myself," he says, "save my capacities of feeling or being conscious (including of course thinking and willing)." But this is to know a great deal; and knowing so much, it is difficult to understand how he can affirm that he knows nothing respecting the inmost nature of the thinking principle.

It is perhaps true, as Mr. Mill says, that "a cause does not, as such, resemble its effects; an east wind is not like the feeling of cold, nor is heat like the steam of boiling water;" but if the resemblance does not exist, how does he know that it does not exist, if he knows absolutely nothing of the cause as such? The affirmation of the essential *subjectivity* of our conceptions in these cases and in those for which he cites the authority

of Brown and Cousin, does not exhaust all the cases that may be adduced. Is it consistent with our experience or conceivable by us that an immobile substance should produce motion, that a dead body should generate life? Is it not rational to suppose that mind, the most mobile of all substances, should proceed from mind, and that moral life, the highest of all the forms of life, should proceed from a moral being? If we know absolutely nothing of causes in themselves, and if there is not the slightest reason for believing that there is any affinity between effects and their causes, then we have no right to distinguish between causes, and in that view we should be entitled to assume that any and every cause may produce the most diverse effects, and that the most diverse causes may produce the same effects. It is certain, however, that we know and expect that certain causes will produce certain effects, and that certain effects will be produced by certain causes. We reason from causes to effects and from effects to causes, neither of which would be possible if we did not know something of causes in themselves as well as of their effects on us. This is not inconsistent with the doctrine that the only notion of a cause which the theory of induction requires or sanctions is such a notion as can be gained from experience, for it is still from effects that a knowledge of causes is deduced, but it is suggested that that knowledge amounts not only to a knowledge of causes relative to us, but to a knowledge in however limited and imperfect a degree of causes in themselves. From the effects respectively of body and of mind we infer that the mysterious something which produces the one effect is different in itself from the

mysterious something which produces the other ; that the nature of the effect gives us to some extent a clue to the nature of the cause.

On this principle the foundations of theistic belief may be deepened and widened. In the phenomena of the universe and of our own nature we see proofs not only of the simple existence of God and of his possession of attributes relatively to us, but of his possession of those attributes as inherent in his own being. By this process of thought we conceive not only of body as that mysterious something which excites the human mind to feel, and of the human mind itself as that mysterious something which feels and thinks, but also of God as the author alike of matter and of mind and of the phenomena and laws of both, himself the informing energy and moral ruler of all, in all their wonderful diversity and complication, order and beauty, grandeur and unity.*

* See Appendix on the Doctrine of Causal Resemblance.

CHAPTER II.

CONSIDERATION OF OBJECTIONS TO THE THEORY OF WILL.

IN the preceding chapter the principal theories formed for the interpretation of history have been examined, viz. the theories of chance, of law, and of will. The theory of chance has been found wholly untenable. Law, it appears, prevails universally, but it affords in itself an inadequate explanation of phenomena; since law implies, while the theory of mere law negatives, the existence of a lawgiver. The third theory supplies this deficiency and affirms a supreme will, the source and support of law. In this last theory the question is not whether we shall acknowledge law *or* a lawgiver, but it is whether we shall acknowledge law *and* a lawgiver; not whether we shall accept the doctrine of a lawgiver without law, but whether we shall accept the doctrine of law without a lawgiver; and building on the facts and philosophy even of opponents the theory of a supreme will has been unhesitatingly maintained.

It is proposed in the present chapter to examine this theory more closely, to consider the objections that have been or may be brought against it, and to dispose of

some considerations that arise out of those objections and that are suggested by M. Comte's treatment of the question.

The theory of a supreme will and the objections that have been made to it present three distinct forms of thought which, although intimately connected and mutually dependent, may for the sake of precision be separately considered. The first respects the origin of all things for which it demands a primary cause. The second respects the course of events which it teaches are under the direction of a superintending providence. The third respects the results of nature and life regarding which it asserts the reality of final causes. That primary cause, that superintending providence, and those final causes, according to the theistic theory, all meet and centre in one supreme will, and of that will all law is the expression.

SECTION I.

Objections to a Primary Cause.

No attempt has been made to establish the existence of a supreme will by formal argument. The history of the origin and growth of the divine idea in the human mind, as given by its adversaries, has been accepted, and it has been shown that the admitted facts of the case and the philosophical system constructed from those facts involve by inevitable consequence the truth of the idea. This is nothing more than an *argumentum ad hominem* which, however legitimate to a theist under the actual circumstances and however embarrassing to the anti-theist, does not wholly satisfy the calm inquirer after truth. It is not enough to silence a disputant: he may have done scant justice to his own case. It is required also to convince one's own mind, to answer objections, to lay solid the foundations of a belief in universal law and order, justice and goodness, and in a supreme will, their source and centre and support. There will always remain indeed to a finite intellect the difficulties inseparable from a question having infinite relations; there will always be diversities of judg-

ment corresponding with diversities of culture ; and every intellectual conclusion will always need to be qualified by the moral element which purifies and illuminates, so to speak, the atmosphere in which the mind thinks and reasons. But whatever the difficulties necessarily belonging to the question or specially attaching to the intellectual and moral character of the individual who considers it, it still seems to be the duty of every conscientious believer in God to think out the grounds on which he embraces and retains that faith, comprehending as it does the final explanation he must give to himself and to others of all the mysteries of existence, all the conditions of life, and all the events of history.

A primary cause then is here affirmed on the ground of the necessity imposed on the human mind by its natural constitution to demand a cause for every thing that exists. Every phenomenon may be regarded both as a cause and as an effect, and must be regarded either as the one or the other. If regarded as a cause, we seek to know its effects. If regarded as an effect, we inquire into its cause. No single phenomenon can be divested of this relation or can be conceived as divested of it. We constantly think and act in the recognition of this relation. Thoughts and actions sustain this relation to each other ; thought to action, and action to thought ; action to action, and thought to thought. It is a relation inseparably interwoven with the frame of man, of nature, of being. Since then no individual phenomenon can exist or be conceived devoid of this relation, it follows that the aggregate of all phenomena, the universe, must sustain and cannot be consistently conceived except as

sustaining the same relation. As soon as and so far as we ascend from the contemplation of isolated phenomena and evolve from observation and reflection the conception of a universe, we are compelled by the principles of our nature to demand a cause for its existence such as we perceive and apprehend it to be. Separate and successive phenomena, as for instance the separate individuals and the successive generations of the human race, have separate and successive causes in an affiliated order. In the development of character the child becomes the father of the man; in the development of race the child of one generation becomes the parent of another. But the universe regarded as a coherent whole is one vast phenomenon and requires a cause which shall account for its existence. That cause is what we mean when we speak of the primary cause of all things. That primary cause, by whatever names described in other languages and by other forms of faith, is what we call God.

There may be and there doubtless are other processes of thought by which the conception of God as a primary cause may be attained. But when this particular process of thought is pursued, it would appear that the idea of God as a primary cause is not only not necessary but is not possible so long as the mind remains exclusively occupied with single phenomena; that it becomes possible only when the mind rises to the conception of the effect, a universe consistent in all its parts, which demands such a cause; that it becomes expanded, refined, and elevated with the expansion, refinement, and elevation of our conception of the universe; and that when the conception, more or less comprehensive, of a

universe coherent, stable, and regular, is received into the mind, then the idea of a primary cause of that effect, that is, the idea of God, becomes not only possible but necessary, as necessary as a proximate cause for every passing phenomenon. In both cases we may ignore the cause both proximate and primary and give undivided attention to the effect, an atom or a universe; but in either case to ignore is not to annihilate the necessary connection of cause and effect. A proximate cause is essential to the actual existence of every single phenomenon: a primary cause is essential to the actual existence of a universe. The idea of a proximate cause is essential to the logical existence of the conception of a single phenomenon in our minds: the idea of a primary cause is essential to the logical existence of our conception of a universe.

The universe of matter and mind, the unity which we decompose into the physical and moral worlds, the worlds of nature and of history, may be regarded not as an aggregate of phenomena but of their laws, and in that view the same reasoning may be employed. A law is a general name for certain phenomena of the same kind which regularly recur under the same circumstances. By the constitution of nature and of our own minds every one of these separate phenomena must be traced to a specific cause. But their regular recurrence under the same circumstances which constitutes the generalization called law is itself a new phenomenon, and demands a cause not less necessarily than each of the single phenomena. When two or more phenomena are united by some common characteristic, this link that connects them is a fact not less real and positive

than each of the individual phenomena. In like manner when we perceive not merely phenomena aggregated into law, but laws aggregated into a universe which in as far as our limited faculties can decipher is coherent, consentaneous, and unitary in all its parts and in all its movements both material and mental, this unit so vast and so diverse and yet so wonderfully regulated and compacted into a whole, is itself an ultimate phenomenon which demands a cause not less than every single phenomenon and every single law. That cause is the primary cause of all phenomena, the supreme will which subjects all phenomena to laws and colligates all laws into a universe.

When we regard this primary cause, not in its interior nature which is wholly inaccessible to us, but as a cause, and it is only as a cause, that is, as producing effects, that we do or can know any thing of it, then we arrive at the conclusion that it is one, and that the phenomena and the laws of being are the expressions of a single and undivided will. There is no conflict between the laws of phenomena, but on the contrary a perfect accord and co-operation producing amid the grandest and most beautiful variety a unity of effect which indicates their emanation from one mind. Compare for instance the laws of light with the structure of the organ by which light is received and upon which it acts. We may not say that the nature of light was adapted to the structure of the eye or that the structure of the eye was adapted to the nature of light, because in either case that would seem to imply a priority in the order of time and in the order of dignity which we are not at liberty to assign to the one or to the other. But we may say

with confidence that the nature of light and the structure of the eye were determined by one and the same will. And so with respect to sound and the ear ; and so with respect to all the laws of the universe known to us which, notwithstanding the greatest diversity of forms, of motions, and of volitions, act and react and interact with the most admirable harmony, and thus permit and require us to refer them all to one primary cause, one supreme will.

In opposition to reasoning of this kind, M. Comte objects to all inquiry into the causes of phenomena ; and a primary cause, together with providential and final causes, is throughout his voluminous work the constant object of condemnatory and even contemptuous reference as beyond the scope of legitimate, scientific, and philosophical investigation. Thus for instance, within the limits of a few pages, he speaks of the unattainable quest into the origin and the mode of production of the celestial movements ; of an inquiry into the essential nature and the primary cause of those movements as a censurable practice, the last vestige of the metaphysical spirit in astronomy ; of the vain search into the inmost nature and primary cause of gravitation ; of Descartes' mechanical conception of phenomena as having consisted in creating, without any positive basis, a vast hypothesis respecting their mode of production ; and of the Newtonian philosophy, while preserving the fundamental idea of a mechanism, as having definitively rejected all inquiry into its origin and mode of production.*

* "La recherche inaccessible de l'origine et du mode de production des mouvemens."—"Une enquête de la nature essentielle et de la cause première

Mr. Mill in substance adopts the same view. He explains that when he speaks of the cause of any phenomenon, he does not mean a cause which is not itself a phenomenon. He makes no research into the ultimate or ontological cause of any thing. The causes with which he concerns himself are not *efficient* but *physical* causes. They are causes in that sense alone in which one physical fact may be said to be the cause of another. Of the efficient causes of phenomena, or whether any such causes exist at all, he is not called upon to give an opinion. He neither affirms nor denies their existence. He treats the law of causation independently of all consideration respecting the ultimate mode of production of phenomena and of every other question regarding the nature of "things in themselves." (Logic, i. 396, 397.) He thinks indeed that M. Comte has unnecessarily and injuriously abstained from the employment of the word Cause in his speculations, and that his disuse of it has not absolved him from the necessity of speaking continually of the *properties* of things, of *agents* and their *action*, of *forces* and the like, partial and inadequate expressions of the same general idea. But he carefully reiterates the assurance that he most fully agrees with M. Comte that *ultimate* or *efficient* causes which are conceived as not being phe-

des mouvemens considérés, cette habitude blâmable, dernier vestige de l'esprit métaphysique à cet égard."—"Sans aucune vaine recherche de la nature intime et de la cause première de cette action céleste ni de cette pesanteur terrestre."—"Jusque alors l'esprit humain n'avait pu s'élever dans la personne de notre grand Descartes, à une conception mécanique des phénomènes généraux, qu'en créant, sans aucune base positive, une vaste hypothèse sur leur mode de production."—"L'action philosophique de la découverte newtonienne est venue le lancer dans la véritable direction positive, susceptible d'un progrès réel et indéfini. Elle a soigneusement conservé de Descartes l'idée fondamentale d'un mécanisme; mais en écartant définitivement comme radicalement inaccessible à nos moyens toute enquête de l'origine et du mode de production." Philosophie Positive, ii. 219, 220, 246, 258, 259.

nomena, nor perceptible by the senses at all, are radically inaccessible to the human faculties ; that the constant relations of succession or of similarity which exist among phenomena themselves are the only subjects of rational investigation ; that he applies the terms causation and cause and effect solely for the purpose of distinctively designating the relations of unconditional from those of conditional succession ; and he concludes with expressing the opinion that the revival of the doctrine that *efficient* causes are within the reach of human knowledge is a remarkable instance of what has been aptly called "the peculiar zest which the spirit of reaction against modern tendencies gives to ancient absurdities." (i. 421-424.)

The notion, then, of an efficient cause of the universe is an absurdity ; to believe in such a cause is to believe in an absurdity. Hard words break no bones, and therefore they may be pardoned : they neither prove a false doctrine nor disprove a true one, and therefore it may be as well not to throw them back. But it may be suggested to those who employ them that three distinct questions are here strangely confounded both by M. Comte and Mr. Mill. The first question is the existence of a primary or efficient cause of the universe. The second is the inmost nature of that cause. The third is the mode in which that cause operates or produces effects. These three questions, clearly distinguishable from each other and capable of separate and independent treatment, are loosely thrown together, and what is affirmed or denied of one is arbitrarily and indiscriminately affirmed or denied of all three. They are totally different in themselves and rest on totally different grounds.

With regard to the third question no attempt is here made to explain the mode of production of phenomena: this is believed to be utterly inscrutable to the human faculties. On this question the position of Messrs. Comte and Mill is unassailed and unassailable. With regard to the second question no knowledge is here pretended of the inmost nature of efficient causes or of a primary cause, beyond that which is drawn from the observation of phenomena. Messrs. Comte and Mill are at liberty to deny and others are at liberty to affirm that such knowledge can be obtained from such a source; or they are at liberty respectively to deny or affirm a greater or less amount of such knowledge derivable from such a source. But, whatever the conclusions, the appeal on both sides is to the observation of phenomena; and the question, therefore, is strictly within the limits of the most positive philosophy. No philosophic hauteur or unphilosophic contempt will remove the question from this ground. The first question is the only one with which we are here specially concerned. And on what ground is the existence of efficient causes, and consequently of an efficient or primary cause of the universe, denied and the affirmation of such causes treated as the modern revival of an ancient absurdity? On no other apparent ground than that efficient are not physical causes; that an efficient or primary cause is not a phenomenon; that efficient causes are conceived by those who believe in them as not being phenomena nor perceptible by the senses at all; and that thus being radically inaccessible to the human faculties they are not within the reach of human knowledge. All this is true, but the plain answer is that an efficient or primary

cause, although not a phenomenon, is proved by phenomena, and that although inaccessible to the human faculties in itself, in its inmost nature, and in its modes of operation and production, its simple existence at least is within the legitimate bounds of human belief and knowledge.

It is not always that we find Mr. Mill equally rigid in applying the same principle of judgment. Thus he affirms without qualification that "we can no more imagine a substance without attributes than we can imagine attributes without a substance." (i. 74.) To imagine attributes without a substance then is impossible. Is substance, as contradistinguished from attributes, a phenomenon or conceived as such? Is it perceptible by the senses? Is it accessible to the human faculties in its inmost nature and in its mode of operation? Mr. Mill will be the first to answer in the negative, and yet he maintains that we cannot imagine attributes without a substance. If we cannot imagine attributes without a substance, although we know only the attributes of that substance and know nothing of the substance of those attributes except that it exists and forms their groundwork, why may it not with equal reason be affirmed that we cannot imagine phenomena without an efficient cause, although we know only the phenomena and know nothing of the efficient cause except that it exists and is the cause of those phenomena?

This inconsistency is only brought out more fully when Mr. Mill distinguishes substances as bodies or minds, and explains that "as body is the mysterious something which excites the mind to feel, so mind is the mysterious something which feels and thinks," and that of

the inmost nature of either we are and must always remain entirely in the dark. (i. 81.) This mysteriousness, this incomprehensibility, this unphenomenal character of the somethings that we call body and mind, this ignorance on our part of their inmost nature, does not lead Mr. Mill to deny their existence, or the intimate connection between them and the phenomena of which they are the seat. Body is with him the exciting cause of sensations although the unknown cause; mind is the recipient or percipient of those sensations, although the unknown recipient or percipient. Body is something distinct from the sensations which it communicates; mind is something distinct from the feelings of which it is conscious. How does it appear then that it is absurd and unphilosophical to affirm the existence of an efficient cause which underlies all the phenomena of the universe, although we are ignorant of its intimate nature and mode of operation, while it is rational and philosophical to admit the existence of matter and mind of whose inmost nature we are equally ignorant, which are equally imperceptible to the senses, and equally inconceivable as phenomena?

Mr. Mill seems to lay himself open to remark in another direction bearing on the same question. He censures Descartes for speculations "tending to infer the order of the universe, not from observation, but from the notion we think ourselves able to form of the qualities of the Godhead." (ii. 385.) The order of the universe then is to be inferred from observation. But what is the just inference from observation? It is not merely that order exists in the universe which would be an assertion simply of law and would not satisfy the judgment of Mr. Mill who writes as a theist.

(ii. 386.) The inference from observation is not only that order exists but an author of order, not only law but a lawgiver. And what is this but the repudiated doctrine of the existence of an efficient or primary cause? How can Mr. Mill arrive at his theism by observation except by drawing such an inference and admitting such a cause?

It will have been seen that Mr. Mill advances the preceding objection against efficient causes considered in the most general point of view without any reference to the theistic argument, and that it has been only inferentially regarded as in substance and effect bearing against the existence of an efficient or primary cause of the universe. M. Comte, with whom Mr. Mill most fully agrees on the main point, not only argues against efficient causes in general, but in the most direct and explicit language against a primary cause in particular. In his view the allegation of a primary cause of all phenomena and of all laws of phenomena is a violation of the fundamental principle of positive science which is strictly limited in its investigations to actual phenomena, and which is consequently bound to reject the purely absolute notion of a primary cause. Confine science, he virtually says, within those positive limits and it rests on sure foundations, presents sure *data*, and arrives at sure conclusions. Let it transcend those limits and a door is opened to all the vagaries of theological mystery and metaphysical mysticism. We have just seen however that Mr. Mill, who is eminently a positivist, has felt himself compelled to recognize the existence of the mysterious unphenomenal somethings called matter and mind; and it may now be added that

science within its strictest limits does not exclude from its consideration the imponderable, the intangible, the invisible; the gases, light, heat, electricity; thought, volition; and the abstract conceptions of unity and plurality, order and progress, virtue and vice. The idea of a primary cause is not farther removed from the domain of positive science than a hundred other notions with which it is daily conversant. We may even go a step farther and maintain that the conception of a primary cause, instead of being beyond the limits, is essential to the very existence, of positive science. An effect supposes a cause, contains within itself the idea of a cause, and cannot exist as an effect without a cause. But all phenomena are effects: they cannot be conceived except as effects. They consequently suppose a cause, they contain within themselves the idea of a cause, and they could not exist as phenomena without a cause. The idea of a primary cause therefore lies at the very foundation of all phenomena and of all positive science of phenomena. Conceive, if such a conception be possible, a primary cause annihilated. With it phenomena disappear and science is impossible, since both its subjects and its objects become non-existent. The percipient and the perceived alike perish. A primary cause is an essential condition of the existence of phenomena and of the science of phenomena, and according to the actual constitution of our minds the idea of such a cause is essential to the logical conception of all phenomena and of the laws to which they are subject.

It is not however denied by the objector that every effect must have a cause, that every consequent must

have an antecedent, that every phenomenon must be referred to a preceding phenomenon, all which indeed he justly considers as amounting to a mere truism; but it is alleged that when this has been done and when we have exhausted the whole series of phenomena, the process is complete, there remains nothing to be explained. Without going beyond the pale of external phenomena, all external phenomena are accounted for, and the assumption of a primary cause is thus shown to be unnecessary. This view may appear to have force in as far as individual phenomena are concerned; but it fails when employed to explain law, that is, it fails precisely where it is most needed in order to disprove a primary cause. It would be adequate to explain even law without the assumption of a primary cause, if law could be regarded as conventional, the mere product of human invention, the combination by human ingenuity of phenomena that have no inherent, permanent, and necessary affinity. It is not requisite to be argued that this is an untenable definition of law as applied to those aggregations of phenomena that are called the laws of nature. None are more frequent and strenuous in dwelling on law as fixed, invariable, and necessary than those positivists who, like M. Comte, ignore a primary cause. But this fixity, invariableness, and necessity of law is itself an effect which pre-supposes its cause, a consequent which must be referred to its antecedent, a phenomenon which demands an explanation. It is quite true that a law is merely an aggregation of phenomena viewed as existing under conditions common to all. But a phenomenon is not a law; and all phenomena together viewed separately and singly do not

constitute a law. Hence when single and separate phenomena are explained, every thing is not explained which those phenomena include. When we have accounted for the individual phenomena that are classified or generalized into a law by assigning as their respective causes the phenomena that have preceded them we have not exhausted the phenomena before us. We have not explained the link that binds together the phenomena thus aggregated. We have not explained the link that unites one law to another. We have not explained the successive links that constitute the vast chain of nature and being, of matter and mind, of thought and action, and that harmonize all with each and each with all. This fixed, invariable, and necessary congruity of parts and unity as a whole are not explained by any preceding phenomena. They can be explained only by looking deeper than all phenomena and admitting a supreme causative mind of which all laws and all phenomena are the significant expression.

But is the notion of a primary cause tenable? Can the human mind attain such a conception, grasp it firmly, and rest on it with confidence? Does it not hopelessly elude our search in the very process of thought that would seem to guide to it? Admitting the alleged necessity under which we are placed of conceiving some cause for all phenomena, for all law, and for the universal order and beauty of nature and life, that cause itself may be regarded as an effect and as such demands a cause, and so on *ad infinitum*, until the mind is lost in its never-ending attempts to gain a fixed footing for the conception of a cause really and truly primary. When you have once passed the boundaries of phenomenal

existence, says the physical positivist, where will you stop, and why should you stop anywhere? The answer is, that we go as far as positive science prescribes, and we stop when positive science forbids us to go farther. Why, as assumed in this objection, must we regard the assigned cause of all phenomena and of all law as itself an effect, and consequently demanding an antecedent cause? There is no just ground for such an assumption, but on the contrary there is just ground for pausing precisely at the point we have reached. When we reason from phenomena to a cause of phenomena we are strictly within the limits of positive science, because the phenomena to be explained are positive, and the conception in our minds of those phenomena would be incomplete, that is, our positive science would be defective, if we did not conceive of them as effects and refer them to an adequate cause. The conception of phenomena demands a cause, and the conception of a cause springs from and depends upon phenomena. Not to recognize the relation of phenomena as effects to a cause is to disobey the requisitions of positive science. Fidelity to positive science makes the recognition of such a relation indispensable. But when, in obedience to the imperative demands of positive science, we have made such a recognition and acquired the conception of a cause of all phenomena and of all laws, the cause thus assigned is not itself a phenomenon. We are compelled by the nature of the case to assign to that cause qualities proportionate to the effects produced, adequate to the phenomena to be explained; but beyond those limits we observe nothing, we discover nothing, we know nothing, we pronounce

nothing. The cause of phenomena is known to us only as revealed by the phenomena themselves which demand the acknowledgment of its existence and which its existence alone can explain. In itself, in its essential nature, it is impenetrable, inscrutable, shrouded alike from physical perception and mental comprehension. Here, therefore, positive science requires us to stop: it permits us to proceed no farther. If we do not come up to this point we are false to positive science, for until we reach it all explanations of the phenomena of the universe must be insufficient. If we attempt to pass beyond this point and to seek for a cause of this cause, we are equally false to positive science, for there are no phenomena to be explained, no *data* from which to reason, no conclusion to be reached different from that which has already been attained.

An attempt may be made to give this reasoning an application tending to its own refutation. Gravitation for instance, it may be said, is legitimately assigned as the cause of a numerous class of phenomena, and the principle of gravitation is as far removed from observation as that other principle which we designate God, the primary cause of all things. It follows, according to the reasoning that has just been employed, that having attained the idea of the principle of gravitation we ought to pause, we should seek to go no farther, but should accept that as a first principle occupying the same place in respect of all the phenomena which it explains as that which has been claimed for the idea of God, and consequently superseding, *quoad hæc*, the necessity for such an idea. The reasoning employed to establish the idea

of a primary cause is thus applied to overthrow that idea; but this application can scarcely be deemed plausible and is certainly fallacious. When we speak of the principle of gravitation and of that principle as the cause of the phenomena of gravitation, if we analyze our own thoughts and words, we shall perceive that we are not thinking at all, that we mean nothing, but deceive ourselves with a sound without meaning. We know of no such principle of gravitation, and consequently we can assign no such cause of its phenomena. M. Comte expressly teaches that the word gravitation strictly indicates a simple general fact, viz. the action of the sun on the planets, of these on their satellites, and of terrestrial bodies on each other, but that we cannot know in what that action fundamentally consists.* In other words, we do not and cannot know the principle of gravitation, and have only to accept the simple general fact which the word gravitation describes. When we speak of the law of gravitation we mean, if we mean any thing, as has been before stated, the phenomena of gravitation aggre-

* "On a créé le mot heureux de *gravitation*, envisagé comme exactement synonyme de pesanteur universelle pour désigner l'action de soleil sur les planètes, et de celles-ci sur leurs satellites. L'emploi de ce terme a le précieux avantage philosophique d'indiquer strictement un simple fait général, mathématiquement constaté sans aucune vaine recherche de la nature intime et de la cause première de cette action céleste ni de cette pesanteur terrestre. Il tend à faire éminemment ressortir le vrai caractère essentiel de toutes nos explications positives qui consistent en effet à lier et à assimiler le plus complètement possible. Nous ne pouvons évidemment savoir ce que sont au fond cette action mutuelle des astres et cette pesanteur des corps terrestres : une tentative quelconque à cet égard serait, de toute nécessité, profondément illusoire aussi bien que parfaitement oiseuse ; les esprits entièrement étrangers aux études scientifiques peuvent seuls s'en occuper aujourd'hui. Mais nous connaissons avec une pleine certitude l'existence et la loi de ces deux ordres de phénomènes ; et nous savons en outre qu'ils sont identiques. C'est ce qui constitue leur véritable *explication* mutuelle, par une exacte comparaison des moins connus aux plus connus." Philosophie Positive, ii. 246.

gated or generalized in our conception into a law. The aggregated phenomena are the law: the law is the aggregated phenomena. When we speak of the phenomena of gravitation we mean actual and palpable appearances in nature which constitute all that we know of gravitation. We know nothing of gravitation beyond those phenomena and what those phenomena teach. We cannot therefore say that the principle of gravitation is the cause of those phenomena, for this is a mere verbal illusion under which we conceal from ourselves the absence of any definite conception. Neither can we say that gravitation or the law of gravitation is the cause of those phenomena, for those phenomena *are* gravitation and its law, nothing more, nothing less, nothing different. Yet the phenomena of gravitation in common with all other phenomena and the law of gravitation in common with all other laws demand a cause, and the idea of that cause is at once a necessary and an ultimate conclusion.

This conclusion appears to me to lie at the very foundations of human nature and society, of religion and morality, of science and philosophy. Grant this, and the universe has a creator and ruler, man has a father and friend, life has an intelligible meaning, history a definite course, society a destined goal. Deny this, refuse to take this first step, and all is dark and desolate and purposeless. The world is orphaned, and there is no providence to guide the steps of humanity, to control its aberrations, and to conduct it to its ends. All is chance without order, or law without progress, unity, or design; a bottomless deep boiling with endless

storms, a maze without a plan. When these are the alternatives offered, a universal anarchy or a universal perfect rule, does not the innate love of order, of beauty, of truth, and of goodness in the human mind cling to the latter and reject the former, so that if we were sure that there is no God it might seem desirable, as has been somewhere said, to invent one, in order to satisfy the unappeasable longings of our nature for something higher and better than itself? It is indeed difficult to understand how any to whom the idea of God has been once presented can bring themselves to live without it. It would be idle, however, to pretend that there are not many whose objections are not removed by the considerations that have been adduced, and it would be unjust to deny that probably for the most part they are as thoughtful and honest as the majority of those who accept the theistic conclusion. If the belief of the one class is found to be salutary to themselves they must hold that the unbelief of the other is injurious to them; but it does not follow that the evil should be aggravated by mutual want of charity. If it is right for theists, as I consider, to bear with those who seem to them to shake the bases of society, it is equally required of anti-theists to give credit to their opponents for the sincerity and depth of their convictions. I can truly say for myself that verging rapidly towards the close of life, completely emancipated from all ecclesiastical systems and conventional ties, and having no other interests but those of truth to bias my thoughts or direct my pen, I find it utterly impossible to put even a fragment of intelligible meaning into the phenomena of nature, and

life, and history, except as the expressions of a supreme will. I am willing to concede that this may be a mistake: let those who think so believe it possible that the mistake may be, not mine, but theirs. It is not demonstrable like a proposition in Euclid: let those who demand that it should be so demonstrate the existence of matter and spirit, the matter of their own bodies and the thinking power by which it is animated and governed.

SECTION II.

Objections to a Providence.

THE idea of a supreme will first presents itself in the form of a primary cause, and next in the form of a superintending providence. If in our investigations we stop at the idea of law as the ultimate conception of the mind, then it is evident that there can be no place for the notion of a providence. Law is not only necessary, fixed, and invariable; but when regarded simply in itself and as the *ne plus ultra* of human thought, it is also blind, unintelligent, impersonal, inasmuch as it is not the expression of mind and will. If on the contrary we advance, as it has been shown that we are bound to advance, from the idea of law to the idea of a primary cause of that law, then the latter idea does not remain unproductive, but becomes a prolific source of other ideas. In this view law still continues to be regarded as necessary, fixed, and invariable, but it is also now recognized as the expression of mind and will, that is, as the expression not of a blind, unintelligent, and impersonal fate, but of a personal, intelligent, and provident ruler. Law presents to us matter and mind as

existing in a certain order, as sustaining towards each other certain relations, as operating within certain limits and under certain conditions, as proceeding in certain paths, as influenced by certain causes, and as tending to certain results, and when we assign a cause of that law, we necessarily ascribe to the cause the capacity of producing the effects which the law and its phenomena exhibit. The effects are expressions of mind and will; mind and will must reside in the cause; and thus the cause becomes in our conception a personal intelligence and an all-pervading and ever-active providence. The idea of a primary cause has been shown to be an inevitable deduction from the laws and phenomena of the universe, or rather to be inextricably involved in the conception of those laws and phenomena. Equally inevitable from the idea of a primary cause is the deduction of a foresight, a providence, a government exercised by that cause; equally involved in the conception of such a cause is the conception of such a providential government. An intelligent cause must know his own purposes. The intelligent cause of all things, knowing his own purposes, must foresee their execution, and foreseeing their execution must dispose causes to produce the determined results; but all this, not in subversion of law, but in strict conformity with law which, with the phenomena it embraces, is itself the expression of his own being.

The principle here involved is admitted for another purpose by M. Auguste Comte who summarily describes the general relation of human science and art in the following terms: "*Science, d'où prévoyance, prévoyance, d'où action*" (i. 63). This apothegmatic form of language

may be reverently applied to a much loftier subject, the relation of the divine knowledge to the divine providence and government. The universe is to us the expression and proof of a divine mind, the seat of universal knowledge. It follows that in such a mind what would be called in human language and in application to limited intelligences foresight or providence must exist in the most perfect degree. It is impossible that any knowledge can be wanting to such a mind, that any addition can ever be made to such knowledge. What is to us the past and the future must as well as the present at every given instant be equally spread out before such a mind. All events, therefore, are but the gradual evolution of a great drama, the end of which, with all its incidents and in all its stages, is seen from the beginning. *Science gives foresight, foresight produces action.* Divine knowledge involves divine providence, divine providence involves divine government, and divine government is the true philosophy of life, of society, of history.

It has been shown in the preceding chapter (pp. 37-39) that from the popular notion of a divine providence involving occasional and arbitrary interferences with human affairs an argument has been drawn in favour of chance, and this argument has been repelled only by denying such interferences and affirming the compatibility of providential government with permanent law (pp. 96-98). But advocates of law, not less than those of chance, deny the doctrine of a providence, and while the latter hold that the common notion of a providence is coincident with that of chance, the former maintain that it is opposed to that of law. Law, they say, is acknowledged by theists to exist, and to exist as something

fixed, invariable, necessary. Providence is taught as something vague, fluctuating, and uncertain. The choice lies between invariable law and a variable providence; and as they are clearly inconsistent, and invariable law is the common ground that is assumed and admitted, a variable providence must be negatived.

It is not to be questioned that this notion of providence has largely prevailed and still prevails in all religions. Theistic writers, even when they verbally acknowledge the existence of law, sometimes teach a doctrine of providence which subverts law. Thus Bishop Sherlock says that under the divine government there are a great many acts of sovereignty which are under the necessary direction of no law, and that God has reserved to himself a sovereign authority over nature to reverse its laws or suspend its influence by an immediate and supernatural power both in the natural and in the moral world.* Under the appearance of maintaining the absoluteness of the divine sovereignty, this really lowers our notion of God and of his government, as if it were possible for him to know more or better to-day than he did yesterday, or to-morrow than he does to-day; as if changing circumstances could alter his purposes; as if contingencies could occur for which he did

* "There are a great many acts of sovereignty relating to the free exercise of justice and goodness, *which are under the necessary direction of no law*, but are only the free and accountable choice of a sovereign will."—"Though God has endowed all creatures with natural virtues and qualities, and in the ordinary course of his providence suffers them to produce their natural effects, yet he has reserved to himself a sovereign authority over nature *to reverse its laws or suspend its influence* by an immediate and supernatural power; and I see no reason why God may not do this in the moral as in the natural world when the good government of the world requires it." Sherlock on Providence, London, 1694, chap. iv. p. 131; vi. 170. See also i. 4; ii. 23, 24; iii. 34-39. See also the expression of the same notion of Providence from the historical point of view in Bossuet's Discours sur l'Histoire Universelle, part ii. chap. i.

not originally provide. Subject law to these casual interferences and interruptions, and the very idea of law is destroyed and the phenomena of the universe are again resolved into chaos. By accepting this idea of providence we lose the idea of law, and in losing the idea of law, we also lose the just consequences of that idea, the very ideas of a God and a providence which are founded upon it. Law being annulled, chance rules the hour, and this too common notion of a providence is thus self-contradictory and self-destructive.

What, then, is the true idea of providence which shall accord with the idea of law? It has been seen that the idea of law gives birth to the idea of a cause of that law, and that the idea of a primary cause gives birth to that of a providence. But since the idea of a providence is derived from that of a cause of law, it follows that its characteristics must agree with the nature of its origin, and that we must conceive of a providence, not as exhibited in peculiar, extraordinary, and irregular interferences with the operation of law either in the natural or in the moral world, but as consisting in a divine presence and power, not only active in the origination of all things, but permanent and all-pervading, sustaining all phenomena, energizing all law, moving in all motion, thinking in all thought, living in all life, existing in all being, and presiding over all events. It cannot be pretended that there is any incompatibility between such a conception of providence and the most positive idea of law. It is a necessary consequence of the idea of God, and instead of invalidating confirms law. The conception of law gains instead of losing, in clearness, truthfulness, and scientific value, by adding to it this

conception of providence; and it loses instead of gaining, in the same respects, by subtracting this conception. By denying a providence, law becomes a blind destiny, a dark fate, an inexorable necessity, emanating from no cause and resting on no foundation, expressing no will and therefore guided by no wisdom, but liable to unforeseen perturbation, collision, and subversion. In admitting a providence, law is recognized as the emanation and expression of divine reason, the guide and exemplar of human reason, the only solid foundation of human science, the only certain rule of human conduct, the life of all life, the spirit of all society, the soul of all history.

The vagueness which clings to the conception of law when not combined with that of a providence, may be illustrated by a reference to opinions which M. Comte has expressed. He considers that the unbounded admiration which the general order of nature inspires is a blind feeling; that the elements of the solar system in particular have not been disposed in the most advantageous manner; that it would be easy for science to indicate a better arrangement; that animal organization also is in certain particulars imperfect; that war is not a fulfilment, but an obstruction, of fundamental law; and that certain opinions which he stigmatizes are proofs of an actual anarchy and of an anarchical tendency extending even to normal intellects. It has been shown that M. Comte, in presenting these views in virtual opposition to his own doctrine of invariable law, has inconsistently afforded a practical support to the theory of chance (pp. 30-36); while, on the other hand, it has been equally shown that the phenomena which he

misinterprets are reconcilable with the rule of law (pp. 90-96). The inconsistency, however, on his part is broad and indisputable, and the question that arises is, how it is to be explained. That is, how is it to be explained that a philosopher, whose whole system is founded upon the assumption of invariable law, should permit himself to regard and represent law, at least in certain special instances, as imperfect and therefore capable of improvement and change, and some of the most important influences and events of social life as obstructive and anarchical?

At first view it would seem inconsequent to assign his disbelief in an all-wise deity exercising a providential government as the origin of the element of instability infused into his favourite conception of invariable law, because we have just seen that the firmest belief in such a being and in such a government has not exempted Bishop Sherlock from a similar gross and patent self-contradiction. And yet, in truth, it is precisely these contrasted cases of inconsistency and self-contradiction that bring out fully and distinctly the real explanation of both. Bishop Sherlock was a sincere believer in God and his government, but he vitiated and degraded his own conception of that prime article of his faith by regarding law as something that could be suspended or reversed or that might even not exist, whereas theistically law is simply the expression of the divine will, and to speak of its suspension, reversal, or non-existence, is at once an absurdity and an impiety. His theism suffered because his notion of law was vacillating and unscientific. On the other hand, M. Comte is a staunch believer in invariable law,

but he also vitiates and degrades his own conception of that prime article of his creed by denying that law expresses a supreme will, as if law were something self-moving, self-acting, and self-governing, possessing an inherent capacity to execute itself; whereas, viewed apart from its source and author as M. Comte views it, it is merely phenomenal and consequently liable to those imperfections and changes and anarchical tendencies which he incongruously ascribes to it. His positivism suffers from his unphilosophical horror of theism.

The mistakes of these two eminent men represent the opposite dangers of theism and philosophy. On the side of theism there can be no adequate security against unworthy notions of God and his government except in the recognition of the universality and immutability of law as the expression of his supreme and providential will. On the side of philosophy there can be no adequate security against the pride of sciolism and the terrors of anarchy, except in recognizing that a supreme and providential will governs the universe, and that the imperfections we think that we detect and the anarchy we dread are only proofs of our own blindness to the universality and immutability of law. Theism, obscure in its conceptions, unstable in its judgments, and superstitious in its tendencies, will rest on an unsafe foundation until it place itself in open alliance with law in its most positive and uncompromising form. Philosophy will fail to fulfil its mission and must renounce the high character which it claims as the eye of science and the hand of art, the proper basis of society and the true framework of history, until it place itself in intimate accord with that theism which it sometimes repudiates

and contemns. The union of both makes science religious and religion scientific, philosophy devout and piety philosophical, because in that union law is conceived as interpenetrated, informed, and directed by the infinite mind, the eternal thought, the omnipotent and beneficent will of which it is the grand and sublime expression, and whose faintest whisperings it is the highest glory of man to interpret and obey.

The force of these considerations seems to be weakened if not destroyed by alleging the incompatibility of will, first, with the perfection of God, and next with the fixity of law, the former objection being found in the writings of Spinoza, the latter in those of M. Comte.

Spinoza professes his inability to form a clear and distinct conception of personality as applied to God, resolves will into the human attribute of choice between contraries, and refuses to ascribe to God that and other human attributes, such as intellect, attention, hearing, &c.* Without pretending to understand more

* "Voluntas Dei quâ se vult amare, necessario sequitur ex infinito ejus intellectu quo se intelligit. Quomodo autem hæc tria inter sese distinguantur, ejus scilicet essentia, intellectus quo se intelligit, et voluntas quâ se amare vult, inter desiderata reponimus. Nec fugit nos vocabulum (*personalitatis* scilicet) quod Theologi passim usurpant ad rem explicandam: verum quamvis vocabulum non ignoremus, ejus tamen significationem ignoramus, nec ullum clarum et distinctum conceptum illius formare possumus; quamvis constanter credamus in visione Dei beatissima quæ fidelibus promittitur, Deum hoc suis revelaturum." *Metaphysica*, cap. viii.—"Hoc ipsum me urget ut breviter meam de hac positione opinionem, an mundus fortuito sit creatus, proponam. Respondeo vero quod, sicuti certum est *Fortuitum* et *Necessarium* duo esse contraria, ita manifestum etiam est eum qui mundum necessarium divinæ Naturæ effectum affirmat, omnino etiam mundum casu factum esse negare: illum autem qui affirmat Deum potuisse creationem mundi omittere, confirmare, licet aliis verbis, eundem casu factum fuisse; quoniam a voluntate, quæ nulla esse poterat, processit. Quia vero hæc opinio, hæcque sententia penitus absurda est, vulgo unanimiter, Dei voluntatem æternam ac nunquam indifferentem fuisse, concedunt: et propterea necessario quoque debent largiri (nota bene) mundum Naturæ Divinæ necessarium esse effectum. Vocent hoc voluntatem, intellectum, vel quocunque lubet nomine, eo tamen tandem devenient quod unam eandemque rem diversis nominibus expriment. Si enim eos roges, an Divina voluntas ab humana non differat, respondent priorem non

than Spinoza did what is meant by the personality of God and equally with him eschewing the confusion of the divine with the human,—the danger which he feared (*ne divinam naturam cum humana confundam*) and which he is not supposed to have very successfully avoided,—perhaps the best way of removing the difficulty which he has raised respecting the personality of God is that which he has himself indicated. He tells us in very precise and definite language that the human will is nothing but the mind itself, and in language not less unequivocal that the divine will and the divine intellect are convertible terms.* Explain it as he may, or decline all explanation as he may, here and in many other parts of his writings are will and intellect ascribed to God, the determinations of the one and the perceptions of the other, and this is all that is meant when the personality of God is maintained. The will of God is God himself willing, thinking, affirming, denying, commanding, forbidding by the laws which he has impressed on us and on all nature. Theists and even theologians mean nothing more than this when they ascribe will to God and thereby affirm his personality and providence. Philosophers such as Spinoza mean all this and nothing less than this even when in words they ignore the personality of God and refuse to ascribe to him the alleged human attribute of will. The objection is so

nisi nomen cum posteriore commune habere: præterquam quod plerumque Dei Voluntatem, Intellectum, Essentiam, aut Naturam unam eandemque rem esse concedunt; sicuti et ego, ne Divinam Naturam cum humana confundam Deo humana attributa, nempe Voluntatem, Intellectum, Attentionem, Auditum, &c., non adsigno. Dico igitur, ut jam modo dixi, mundum Divinæ Naturæ necessarium effectum, eumque fortuito non esse factum." *Epistola lviii.*

* "Nos modo diximus, imo clare ostendimus, voluntatem nihil esse præter mentem ipsam." *Metaphysica, cap. xii.*—"Id ipsum quod Dei intellectum vocavimus, Dei voluntatem sive decretum appellamus." *Tractatus Theologico-Politicus, cap. iv.*

far reduced to a dispute about words, unworthy both of theologians and philosophers.

The case is not very different with that other form of the objection which identifies will with choice. According to Spinoza, he who maintains that the world is not the necessary effect of the divine nature and that God might, if he thought fit, have omitted the creation of the world, in effect maintains that the world was made by chance, since it proceeded from will or choice (*quoniam a voluntate, quæ nulla esse poterat, processit*). Will in this use of the term means choice, choice implies doubt, doubt implies imperfection, ignorance, confusion, chance. As against the theory of chance and its abettors under every aspect, the conclusion is irresistible; but it has no force whatever against those who hold the Christian and philosophical doctrine that with God there is no variableness nor any shadow of turning. In the sense in which they ascribe will to God, that word does not mean a choice between an affirmation and a negation, between action and inaction, between right and wrong, between good and evil, as if God were one like ourselves balancing in his mind between two opposing propositions or procedures. In the mind even of that imperfect being whom we call a good man, by the conjoined force of education, reflection, and habit, virtue may have so completely acquired the ascendancy that he cherishes kind affections and performs just actions with an instinctive and instantaneous proclivity and without any conscious reference whatsoever to the contrary alternatives. If this is possible to man, how much more requisite is it to suppose that the will of God, the law which he ordains, and the providence which he exer-

cises are, in virtue of that free necessity which by a happy phrase Spinoza ascribes to him,* the expressions of his perfect and immutable nature.

Spinoza, a metaphysical philosopher, refused to ascribe will to God, as being inconsistent with the immutable perfection of his nature : M. Comte, a positive philosopher, denies a divine providential government of the world, because that means a government of will, and will he assumes and asserts to be incompatible with law. The one believed in God and therefore rejected the notion of a mutable will ; the other does not believe in a divine providence because to him such a belief necessarily involves the changes that spring from arbitrary volition. This form of the objection to a providence may be thus briefly stated. Laws are fixed and invariable, producing fixed and invariable phenomena which can be accurately and minutely foreseen and foretold. Volitions on the contrary, and consequently the phenomena governed by volitions, are variable and irregular, arbitrarily and abruptly interfering with the fundamental order of nature. To suppose a world governed by volitions, or according to the utmost simplification of the idea, by a providential will, is at least virtually to suppose a world not governed by law ; that is, it is to suppose a different world from that to which we belong and which is spread out to our observation.†

* "Deus, tametsi necessario, libere tamen existit, quia ex sola sue naturæ necessitate existit. Sic etiam Deus se et absolute omnia libere intelligit, quia ex sola ipsius naturæ necessitate sequitur ut omnia intelligat. Vides igitur me libertatem non in libero decreto sed in *liberæ necessitate* ponere." Epistola lxii.

† "L'ensemble de ces phénomènes provoque naturellement une remarque philosophique fort essentielle sur l'opposition nécessaire et de plus prononcée de l'esprit positif contre l'esprit théologique ou métaphysique à mesure que la géométrie céleste s'est perfectionnée davantage. Le caractère fondamental de

In this objection M. Comte's conception of will is thoroughly anti-positive, and is thus strangely at war with the spirit and principle of his own philosophy. If, as is stated, there is a fundamental order to which all phenomena belong, and if all the phenomena which that fundamental order embraces are governed by fixed and invariable laws, then volitions which are mental phenomena belong to that order, are governed by those laws, and are not irregular phenomena subversive of all order and all law. Like all other phenomena they are subordinated to law, and if subordinated to law then they are not disorganizing interferences with law which the objection assumes them to be. M Comte, in order to overthrow the doctrine of a providential will, takes for granted that volitions are by their very nature lawless, that is, for the occasion he assumes that volitions are what the whole tenour of his work goes to prove that they are not and cannot be. When he shall

toute philosophie théologique est d'envisager tous les phénomènes comme gouvernés par des volontés et par conséquent comme éminemment variables et irréguliers au moins virtuellement. Au contraire, la philosophie positive les conçoit comme assujettis, à l'abri de tout caprice, à des lois invariables qui permettent de les prévoir exactement. L'incompatibilité radicale de ces deux manières de voir n'est aujourd'hui nulle part plus saillante qu'à l'égard des événemens célestes depuis qu'on a pu les prévoir complètement et avec la dernière précision. En voyant toujours arriver les comètes et les éclipses avec toutes les circonstances minutieuses exactement annoncées long-temps à l'avance suivant les lois que le génie humain a su enfin créer d'après ses observations, le vulgaire lui-même doit être inévitablement entraîné à sentir que ces phénomènes sont soustraits à l'empire de toute volonté qui n'aurait pu sans doute se subordonner aussi complaisamment à nos décisions astronomiques." Philosophie Positive, ii. 216, 217.—"L'influence prolongée des croyances monothéiques qui avaient d'abord tant facilité ce grand mouvement logique surtout depuis la modification scolastique, constitue réellement aujourd'hui le seul obstacle essentiel à la plénitude de son accomplissement universel, en conservant la possibilité d'une arbitraire intervention qui vienne brusquement changer sous un aspect quelconque l'ordre fondamental. Sans une telle arrière pensée continue, nécessairement inherente à toute philosophie théologique, même réduite à sa plus extrême simplification, la raison moderne aurait déjà entièrement cédé à la conviction spontanée que doit produire à ce sujet le cours journalier d'une foule d'événemens de tous genres régulièrement accomplis selon nos prévisions rationnelles." vi. 713.

have established what he now gratuitously assumes, that volitions simply as such and in their own nature are beyond the jurisdiction of law, he will have succeeded in disproving not only the existence of a providential will which the theist acknowledges, but the existence also of fixed law which as a positivist he himself maintains. He will have shaken indeed the convictions of the believer in a providential government of the world, but he will also at the same time and to the same extent have cut away the ground from under his feet. Man may be a free or he may be a necessary agent. That is a different question not here considered. But the plain dictate of positive philosophy is that as soon as he becomes an agent at all, free or necessary, his acts, including the mere acts of his will, his volitions, become subject to fixed and invariable law.

Statistical science confirms the conclusion of philosophy that volitions, like all other things, belong to the great chain of causes and effects, a chain of which both the extremities are concealed from our view, but of which the intermediate links are seen to be held together by the indestructible force of fixed and immutable law. Whenever acts of the will occur under circumstances which permit them to be classified and generalized, their results can be foreseen and predicted with the same minuteness and accuracy as those of other phenomena which are not acts of the will. Of all the events of human life none are farther removed from the control of the will than sickness and death. No one wills to be sick. No one (except in cases of suicide) wills to die. Sickness and death are admitted to be the effects of natural and necessary law operating inde-

pendently of the human will. Of all the events of human life marriage, crime, and suicide must be admitted most clearly to emanate from the will, exercised in these instances in forms apparently the most arbitrary and capricious. And yet in a given population and within a given period, the number of the latter class of events which are determined by the will can be foretold with their most important circumstances as confidently as, in the same population and within the same period, the number of the former class of events which are wholly independent of the human will. In a given population and within a given period it can be shown not only how much sickness and how many deaths—events independent of the will—have occurred and will probably hereafter occur with a very near approach to accuracy; but also with a still nearer approach to accuracy how many marriages—events dependent on the will—have occurred and will probably hereafter occur at different ages, the proportion of men at one age with women at another age, and even the proportion between the conditions of persons marrying, bachelors with spinsters, bachelors with widows, widowers with spinsters, and widowers with widows. Crime which is voluntary fluctuates less than mortality which is involuntary; and not the number of suicides only, but the modes and motives, all acts of the will, are shown to be in accordance with general law.* These results are deduced

* On the 31st of May, 1852, a paper was read before the Institute of Actuaries by Mr. Brown, "On the Uniform Action of the Human Will as exhibited in its Mean Results in Social Statistics," of which the following summary appeared in the *Athenæum*, London, June 5, 1852. "The object was to point out a new application of the doctrine of probabilities to a class of facts which were not generally thought to come within the range of calculation. However varied and uncertain may be the events to which the life of a single individual is exposed, the average return in a large mass is so regular as to be

from observed and recorded facts by statistical philosophers who have no object in view but to extend the boundaries of positive science; and they are accepted and confirmed by the most sagacious class of businessmen whose professional avocations familiarize their minds with such calculations, and enable them to

predicted with confidence within very small limits of error. It is the province of the actuary by a collection and comparison of facts which relate either to the health and existence of man, or which affect him in his relations with society, to ascertain the laws by which such events happen and by reducing the theory to practice, to equalize the irregularities observable in the occurrences incidental to his condition. In this manner it was pointed out that, notwithstanding the uncertain character of the events, the facts relating to sickness had been registered in a series of tables of the utmost value to sickness-clubs which they would do well to heed. But it is a remarkable fact, as shown by M. Quetelet from observations in Belgium, that the operation of the human will is even more regular and the deviations found to be within narrower limits than the fluctuations known to obtain in regard to sickness and death. The illustrations were principally taken by the author of the paper from the facts relating to marriages, because it might be supposed from the different motives which might govern in such cases, the influence of the passions, sober reflections on the advantages of the marriage-state, sometimes self-interest, sometimes submission to the interest of others, that nothing could be more uncertain or more capricious than the will as evidenced by the number of marriages in a country. Yet it was found in Belgium in twenty years, 1825 to 1844, that the extreme numbers of marriages annually were 26,117 and 32,680, whilst the deaths in the town varied from 24,539 to 35,606 in the same period, the former showing only a fluctuation of 6563, and the latter 11,067. In England in the six years, 1839 to 1844, the average number married annually was 1546 in every 100,000 persons composed of equal proportions of the sexes; whilst the greatest in *excess* from the average was only 51, and in *deficiency* only 74 in the whole six years. The same singular uniformity was remarked in the number of persons married at different ages, in the proportion of men at one age with females at another age, and even between the conditions of persons marrying, bachelors with spinsters, bachelors with widows, widowers with spinsters, and widowers with widows. The proportions were shown by tables to differ in a very slight degree in several successive years, and at different periods of age. Other kinds of observations were pointed out in which the action of the will is observed to be in such strict accordance with a general law, that calculation, though it might be at fault in a few cases, would be almost absolutely correct in predicting the results in a large population. The crimes of which persons are accused vary in their nature according to the age and sex; but during twenty years in which they were registered in France, and during which the number accused was about equal to that of the deaths of males registered in Paris, the former results were found to fluctuate less than the latter. The proportion of suicides to deaths (1 in 70 amongst males, 1 in 125 amongst females), and the age in which they are committed, the mode of death, and even the causes which lead to them, vary only in accordance with some general laws; and the author referred for some further illustrations of this curious subject to the statistical journal and the writings of MM. Quetelet, Guerry, Benoiston de Chateauneuf, &c."

appreciate both the practical value of the conclusions and the force of the evidence on which those conclusions rest. The conclusions coincide in the first place with the general scope of M. Comte's positive philosophy that law is universal and invariable; and in the second place, they no less clearly refute his gratuitous and inconsistent assumption of the radical incompatibility between law and volition, and thus negative the objection to a providential will founded upon that untenable assumption.

Let it now be admitted that M. Comte is not inconsistent with himself, with statistical science, and with positive philosophy in asserting their incompatibility, and that human volitions are as inconstant and irregular as he assumes them to be. Even with these admissions his objection to a providence is not sustained, his argument against it is in no degree advanced. To show this it is only necessary to state the position which he assails and the ground on which he assails it; the position which is defended against him and the ground on which the defence is made. The position which he assails is that there is a providential will which men call God; that its volitions are arbitrary and capricious; and that the phenomena which it controls must partake of the same arbitrary and capricious character; and the ground on which he successfully contests this position is that the phenomena of the universe are found in fact to be regulated by fixed and stable law, and that consequently the notion of such a providential will must be abandoned. Contrast with this the true idea of a providence and the ground on which it is maintained. The position which is defended is that the providential will

which men call God is the source and therefore the support of law ; that it expresses itself in law, and is therefore not opposed to, but coincident and identical with, law ; and that being in its nature and by the supposition perfect, it is uniform and persistent in its volitions, in the laws by which they are expressed, and in the phenomena flowing from those laws. This position may or may not be tenable. If it is not, let it be disproved ; for the human mind loves truth, however appalling, not the figments of the imagination, however pleasing. To many who endeavour to think calmly and philosophically and therefore reverentially, it affords the only foundation on which that coherent system of law M. Comte so strenuously labours to establish, that beauteous and majestic scheme of order and progress and unity in nature and life we all behold, can be supposed to rest. But whether tenable or not, let not M. Comte and his followers deceive themselves and others with a false issue. The ground on which this position is assailed is that volitions are irregular, and therefore incompatible with invariable law. Even if this were true of the human will and its volitions, which it is not, it would have no bearing on the question, for the position defended is not that an imperfect and variable, but that a perfect and invariable will, is the basis of law. To substitute in the proposition to be refuted a variable and irregular, for an invariable and regular will, makes the refutation easy to the mere disputant, but useless to the inquirer after truth.

Another form of the objection to a providence is that in which M. Comte affirms that the prevision and modification of phenomena by man are inconsistent with

the notion of a superhuman and providential will and with the infinite perfection of a divine order.* M. Comte has not explained in what way the mere prevision of phenomena tends in his judgment to destroy the idea that all natural events are under the direction of a superhuman will, and we are therefore exposed to the danger of misapprehending, and however undesignedly of mis-stating, his argument. The following appears to be the process of reasoning which conducts him to this conclusion. Laws are fixed and invariable. Volitions are variable and uncertain. Phenomena, the results of law, may be foreseen. Phenomena, the effects of will, cannot be foreseen. But the prevision of phenomena in which all science consists is a fact, and it proves that phenomena are the results of law and not the effects of will, and consequently not the effects of a superhuman and providential will. After what has been just said in disproof of the alleged incompatibility between law and volition, it is sufficient briefly to recapitulate that the insubordination of the phenomena of the will to law is assumed not proved; that it is not

* "Le caractère fondamental d'opposition à toute philosophie théologique quelconque qui est nécessairement plus ou moins inhérent à toute science réelle même dès sa première enfance se manifeste pour les intelligences populaires par ces deux propriétés générales co-relatives de toute philosophie positive: 1^{re}, prévision des phénomènes; 2^e, modification volontaire exercée sur eux. Ces deux facultés ne sauraient se développer sans qu'elles tendent inévitablement, chacune d'une manière distincte mais parcellément décisive, à détruire radicalement, dans l'esprit du vulgaire, toute idée de direction de l'ensemble des événements naturels par aucune volonté sur-humaine."—"Le libre et plein développement de la puissance humaine dans l'ordre des effets chimiques doit compenser nécessairement l'infériorité relative de la chimie en prévoyance rationnelle pour constater irrésistiblement, envers les esprits les plus vulgaires, que cette classe des phénomènes, comme toute autre, ne saurait être régie par aucune volonté providentielle quelconque." *Philosophie Positive*, iii. 65, 68. —"En principe, toute intervention active de l'homme pour altérer à son profit l'économie naturelle du monde réel constitue nécessairement un injurieux attentat contre la perfection infinie de l'ordre divin." vi. 149.

reconciled and is not reconcilable with the proved and admitted prevalence of law in every other department of nature and being; that it is contradicted by the facts of observation in the department of the will itself; that, if proved, it would destroy the doctrine of theism, that of a supreme and providential will, only by first destroying the doctrine of positivism, that of universal and invariable law; and that, whether proved or not, it has no bearing on the theistic proposition which affirms a perfect will, necessarily therefore exercising invariable volitions, expressing itself in invariable laws, and producing invariable phenomena, the prevision of which by man is not only not inconsistent with a supreme and providential will, but is a necessary consequence and a scientific proof of its reality.

M. Comte has explained more clearly the argument by which from the voluntary modification of phenomena, that is, from the modification of phenomena by the human will, he draws the conclusion that a super-human will is not concerned in the direction of natural events. His statement is in substance the following. Chemistry is relatively inferior to astronomy in that rational prevision of phenomena on which the preceding argument is founded; but this relative inferiority is compensated by the free and full development of human power over the order of chemical effects, and the possession and exercise of such a power by man irresistibly establish that this, the chemical, class of phenomena also is, like every other class, not regulated by a providential will. He even goes the length of maintaining that, on the hypothesis of a providential government of the world, in principle every active

intervention of man to change for his own advantage the natural economy of the real world necessarily amounts to a crime (*injurieux attentat*) against the infinite perfection of that divine order which the theistical argument assumes to exist. Thus, the argument when reduced to its simplest terms is, first, that human will and human power modify phenomena, and therefore a providential will and a divine power do not; and second, that, assuming the existence of a divine order infinitely perfect, every such voluntary and profitable modification of phenomena by man must be an offence against that divine order, which is a *reductio ad absurdum* of the argument for the existence of such a divine order.

That the exertion of human will and power upon phenomena disproves the simultaneous exertion of divine will and power upon the same phenomena is not a self-evident proposition, and it requires from M. Comte, since he affirms its truth, more extended illustration for its support than he has supplied. If he had attempted to seize his own conception more firmly and to bring it to the test of his own philosophy, he would have found it to elude his grasp altogether and to vanish into thin air. He believes in law, fixed and invariable. Law is his God, the supreme and absolute power in nature whose authority consists in its necessary fixity and invariableness. Does he therefore deny the possibility of human will and power changing or modifying the phenomena of law? By no means. This would be to deny all the experiments of science and thereby science itself, to annul all the forms of industry and thereby all social and industrial life. Admitting



then, which he does and must do, that human will and power modify the phenomena of law, does he abandon his positivism and deny the fixity and invariableness of the law of those phenomena, or the existence and reality of that law? By no means. Law is with him necessarily fixed and invariable. Fixed and invariable law is the point upon which his whole system of philosophy turns, the first and last authority in universal nature. And yet, according to M. Comte, while the exercise of human will and power upon phenomena may co-exist with fixed and invariable law, it may not co-exist with fixed and invariable will. It utterly disproves fixed and invariable will, while it in no degree disproves fixed and invariable law. It is clear that if the argument is effective against a providence, it is equally effective against law; if not against law, then not against providence. M. Comte has here aimed a blow at theism which either falls innocuous (*telum imbelles sine ictu*), or which, if it inflict a wound, recoils with deadly effect upon his own positivism.

This is an answer which may silence a controversialist but which will not satisfy a seeker after truth. It shows M. Comte's inconsistency but does not overthrow his reasoning. It still remains to inquire whether that reasoning is valid, and for this purpose let us suppose that it is employed, as it may be employed, against the doctrine of law as well as against that of a providential will. The argument then will be that the exertion of human will and power upon phenomena disproves the simultaneous operation of law upon those same phenomena. How, it may be asked, can law, fixed and invariable law, co-exist with the arbitrary modification

of phenomena by man? In support of this argument it must be admitted that human will and power sometimes do array themselves in at least apparent antagonism with law; but this involves the further admission that they are sometimes, perhaps generally, found in apparent coincidence with law. The greatest liars probably speak more truth than falsehood; and the majority of men, it may with confidence be affirmed, act more in accordance with, than even in seeming contravention of, natural law. From this coincidence, so far as it is admitted to exist, of human will and power with law, no argument can be deduced against law. To that extent they are identical, not different or opposed, and instead of interfering co-operate. The argument therefore, if it have any force, derives it wholly from those cases in which man, consciously or unconsciously, wilfully or unintentionally, places himself in opposition to law. When he thus counteracts, violates, or disobeys law, does he thereby place himself beyond the jurisdiction, or above the authority, of law? By no means. He only shows more clearly his entire subjection to law. When in the exercise of personal will and power man neglects or despises or wantonly tramples under foot any law of nature, he by that very act places himself under the operation of some other law not less stringent in its requisitions and inexorable in its sanctions. For instance, a certain quantity of wholesome food is necessary to health, and where no counteracting causes exist will under the laws of our bodily constitution secure health. But let a man in the exercise of his own will and power eat and drink too much or too little or none at all, and other laws of



our constitution no less imperative will come into operation, producing disease which is incipient death, or death which is the complement of disease. Between law the operation of which conduces to our welfare, and law the operation of which does not conduce to our welfare, there is no neutral territory in which we may free ourselves from the obligation of all law and live according to our independent and irresponsible will. Law holds us with a determined grasp from which it is impossible for us to escape, and every act of attempted insubordination to law makes this only more apparent. We may alter phenomena, but we cannot alter law. We may avoid by the force of our will the conditions under which a given law operates, but in so doing we shall subject ourselves to the conditions which call another law into activity. The exertion of human will and power therefore in seeming counteraction of law is no disproof, but on the contrary a confirmation, of law.

If this is a sufficient answer to show that the exertion of human will and power upon phenomena does not negative the doctrine of fixed and invariable law, why should it not be held sufficient against M. Comte to show that the exertion of human will and power upon phenomena does not negative the doctrine of a perfect and immutable will, the source of fixed and invariable law? Human will either coincides with the divine will, or it does not. If it does, then so far there is an end to the objection: there is no discrepancy between them, and the argument against a providence founded on an alleged discrepancy is invalid. If it appears not to coincide with the divine will, this is only an appearance; for it may be and has been shown that the human will

even in its aberrations, as in the commission of crime or in the hallucination of suicide, is controlled by general laws which theistically are the expression of a supreme will. We have nothing to do here with the ethical difficulty which this presents, the reconciliation of man's moral freedom with his subjection to that supreme will even in the abuse of freedom; a difficulty which the gifted seers of Judaism, placed face to face with the dualism of ancient Persia, do not appear to have felt,* and which is not greater than that which is presented by the apparent contradiction between man's moral freedom and his subjection in the exercise of that freedom to fixed and invariable law. The question at present is simply one of fact and science; and if it appears that the human will, even immorally exercised, is subject to law, whence can be deduced its discrepancy with that immutable will of which invariable law is held to be the expression? M. Comte does not rest the force of his objection to a providence upon any discrimination between different classes of volitions, as good or bad. His proposition is general and unqualified that the exertion of the human will upon phenomena, even upon chemical phenomena, disproves a superhuman and providential will; and the answer to that proposition is that every human volition is itself a phenomenon, a part of life and nature, subject with all other phenomena to law, and that that law is coincident with the divine will from which all law emanates and by which all phenomena are controlled.

* "I form the light and create darkness: I make peace, and create evil: I the Lord do all these things." Isaiah xlv. 7.—"Shall there be evil in the city, and the Lord hath not done it?" Amos iii. 6.

M. Comte reaches the climax of inconsequence when he attempts to resolve the argument for a providence into an absurdity by affirming that in principle every active intervention of man to alter for his own advantage the natural economy of the real world constitutes an offence against the infinite perfection of the divine order. In the preceding form of the objection he assumes that human will and power are exercised upon phenomena, and he infers that they disprove a divine will and power, since in his view they cannot co-exist and act upon the same phenomena. The simple existence of the former is an evidence against the existence of the latter. In the form of the objection now presented he admits for the occasion that a divine order exists and that it possesses infinite perfection, and he infers that every active intervention of man to alter the economy of nature for his own advantage must be a crime against that order, and since abstinence from such supposed crime would annihilate all human activity and extinguish all social life, it follows that to escape from such a conclusion, we must deny the premiss that was assumed and ignore an infinitely perfect divine order.

The first answer here is that which has been already suggested, that the intervention of man to alter the economy of nature, if as is assumed by M. Comte any intervention of man can alter that economy, is as subversive of fixed and invariable law in which he believes as of a perfect divine order which he rejects. The second answer is that there is an obvious fallacy in taking for granted that any intervention of man can alter the natural economy of the real world. All that

man does or can do is, first, to discover what the natural economy of the real world is, and then to conform to it. To alter that economy is beyond the power of all and is within the aim of none of sane mind. It is astonishing that the promulgator of the positive philosophy and of course an unqualified believer in fixed and invariable law, in his blindfold and persevering assaults upon every theistic idea should permit himself to take for granted man's ability to alter the natural economy of the real world, that is, to alter the operation of fixed and invariable law. In the processes of thought, in the experiments of science, in the manipulations of art, in the combinations of society, and in the institutions of government, we may place ourselves in new and untried circumstances and thus invite the manifestation of new phenomena, of new relations, and of hitherto unknown laws; but amid all changes of circumstance and all new developments of phenomena, of relations, and of laws, the economy of nature remains the same, unaltered and unalterable. That a positive philosopher, that the apostle of positivism, should assume on the contrary that the natural economy of the real world is alterable and that it is by human means altered, an assumption destructive of all positive science and all positive philosophy whatsoever, and should found on that assumption, without perceiving its fatal bearing on his own system, the appalling conclusion that there is no supreme will, no divine order, no providential government of the world, is one of the most extraordinary lapses of the philosophic mind and of scientific reasoning.

We are further aided in acquiring a clear conception of M. Comte's reasoning against a providence by con-

sidering a special application which he gives to it. He not only insists in general terms on the incompatibility of law and volition, but when certain phenomena, for instance those of tides, previously little or not at all understood, become generalized and are perceived, like all other phenomena, to be subject to invariable laws, this discovery appears to him to afford an individual instance and corroborative proof and illustration of that incompatibility and irrevocably to exclude every notion of a providence.* We have here some insight into the process of thought and the peculiar habit of thinking by which M. Comte is conducted to this conclusion. An analysis shows that the process consists of three steps or stages. First, there is an important class of phenomena regarded as inexplicable. Second, those presumed inexplicable phenomena are proved not to be inexplicable but subject to invariable laws. Third, the proved existence of invariable laws regulating that class of phenomena previously regarded as inexplicable is inferred irrevocably to exclude from that class and from the phenomena belonging to it all providential intervention and all arbitrary conception. Grant to M. Comte what he here assumes, that *providential intervention* and *arbitrary conception* are synonymous or interchangeable or correlative phrases, either meaning the same thing or mutually implying each other, and his conclusion is indisputably sound and just. The proof of law in any department of nature or in any class of

* "Depuis un siècle, une classe importante de phénomènes naturels" (les phénomènes de marées) "généralement regardés jusqu' alors comme inexplicables, a été ramenée avec précision à des lois invariables qui en excluent irrevocablement toute intervention providentielle et toute conception arbitraire." *Philosophie Positive*, ii. 300.

phenomena disproves in that department or class every thing arbitrary and in that sense every thing providential. This is the sole aspect of providence which seems ever to have occurred or to have been presented to M. Comte's mind, and the inference is inevitable. Refuse to make this concession, to acknowledge this assumption, and claim on behalf of theism that a divine providence excludes every arbitrary conception and is identical with invariable law considered as the expression of a perfect and immutable will, and M. Comte's inference becomes wholly untenable, for there is no connection between the premiss and the conclusion. From the point of view under which he contemplated the doctrine of a providence he could draw no other inference and come to no other conclusion ; but the error lay not in the doctrine but in the intellectual attitude, so to speak, in which he regarded it.

This view is confirmed by a consideration of the successive steps or stages in his process of thought. The *first* position is that there are certain important phenomena which at a given period of scientific progress were irreducible to law. If this state of things had continued, the interpretations that might have been put upon it were twofold. Either, on the one hand, it might have been said that those phenomena, although not reduced, were reducible to law, and that their actual inexplicability was only one of many proofs of human ignorance and one of the many limitations of positive science. Or, on the other hand, it might have been said that those phenomena were not only not reduced, but were not reducible to law, and that their actual inexplicability was, as far as it went, a proof of



the theory of chance, a disproof of the theory of law, and *as such* a disproof of the theory of a supreme will and a perfect providence. In the former case the prevailing ignorance would be held to be consistent with the future proof of law and the future proof of a providence: in the latter case the assumed proof of chance would be the assumed disproof both of providence and law. The *second* position is that those phenomena, hitherto regarded as inexplicable, are shown to be subject to invariable laws, and from this extension of the boundaries of human knowledge and of positive science, there arises, as far as it goes, a legitimate disproof of the theory of chance, a legitimate proof of the theory of law, and *as such* a legitimate proof of the theory of a supreme will and a perfect providence. The proof of a providence goes hand in hand with the proof of law. What on the contrary is the conclusion which M. Comte comes to? The *third* position contains an answer to this question, and it is, that the proved existence of law regulating this class of phenomena excludes the idea of a providence. But if the presence of law excludes the idea of a providence, then the absence of law will imply that idea, whereas, as has been shown and as is clear from the plain meaning of the term, the absence of law affirms the theory of chance, and the theory of chance negatives a providence only by first negating law in which M. Comte himself firmly believes.

One of the first demands upon a fair-minded controversialist is that he shall make himself acquainted with what he attacks and with what his opponents defend, and with this just requisition M. Comte has not thought

fit to comply. Without intentional injustice, it is willingly believed, but not the less blunderingly and unphilosophically, he has confounded the idea of chance and the idea of providence, and when by affirming and proving law in a given class of phenomena he has disproved chance, he suddenly and unexpectedly makes the gratuitous assumption that he has disproved a providence, as if they were one and the same thing. With him providence is something arbitrary, unstable, and incompatible with law. With the consistent believers in a providence, its laws are as perfect and immutable as the being whose will they express. In this view providence is not something different from and opposed to law, but something added to law and confirming law, and this confirmatory addition is, that law, instead of being regarded as merely phenomenal and therefore imperfect and mutable, is the thought of a perfect mind and of an unchangeable will. M. Comte was quite at liberty to attack this form of the doctrine of a providence if he deemed it open to attack; but he was not at liberty to assume that the only form of the doctrine of a providence was that of an arbitrary and vacillating will subversive of law and synonymous with chance. The recognition of the genuine doctrine of a providence would have blunted the point of many a sarcasm directed against theism, but it would have strengthened the argument for law, and it would have consolidated the system of positive philosophy.

SECTION III.

Objections to Final Causes.

A SUPREME will may be conceived not only as originating all phenomena and their laws and as directing and controlling their course, but also as prescribing their tendencies and results, that is, prescribing the final causes, the uses or ends, in which phenomena and laws find their accomplishment. The notion of final causes, like that of a providence, is a necessary deduction from that of a primary cause. The idea of a primary cause is that of mind, of thought, of will, of a personal intelligence. But mind, thought, will, a personal intelligence cannot act without a purpose, a design, an end in acting. To suppose the operation of the infinite mind without a purpose, of the eternal thought without a design, of the omnipotent will without an end—to suppose a vague, fortuitous, and indeterminate operation—is to suppose a contradiction in terms, is to annul the very ideas involved in mind, thought, and will. From the necessary imperfection of our faculties, from the contingent imperfection of all human knowledge, and from the still greater imperfection of our individual

experience, observation, and reflection, we may not be able to express in unexceptionable language or even to conceive in intelligible thought the true nature and full extent of the divine purposes, designs, and ends, but that such purposes, designs, and ends must exist is an inevitable consequence of the reality of mind, of thought, of will in the first cause of all things. Moreover, if there is a purpose, a design, an end in each one and in all of the phenomena and laws of being, there cannot but be an adaptation of means to ends, of subordinate means to subordinate ends, and of subordinate ends to the great result. The universe of God thus becomes in all its parts a network of causes and effects, framed on definite designs, working out definite purposes, and accomplishing definite ends.

Such is the principle expressed in the doctrine of final causes, and it is necessary distinctly to conceive this principle in order to guard against the abuses to which it is liable, to apprehend its correct application, and to estimate the objections of opponents. It is evident from the mere statement that without the exercise of caution its comprehensive scope may lead to grave mistakes. On the one hand by disregarding the necessary limitation of the human faculties "fools" may "rush in where angels fear to tread," and may dare to speculate on the inscrutable determinations of the divine mind regarding matters which no phenomenon, no organization, no law has disclosed, and respecting which therefore speech is an impiety and silence a religion. On the other hand, with equal forgetfulness of the contingent limitation of all human attainments, the most trivial facts, events, and circumstances which, while they con-

form to general law, yet express no special volition, may be weakly accepted as intimations of the divine pleasure and guides of human conduct. But because some may occasionally approach the confines of a presumptuous mysticism or of an ignorant superstition, that is no reason why others, with their eyes fully open to the danger on both sides, should refuse to walk on the broad path which lies between those extremes. In the depths of the divine consciousness there must be purposes which we can never scan; and in the complication of causes and effects by which we are surrounded there will probably always be occurrences which, regarded as means we cannot connect with their ends, and regarded as ends we cannot connect with their means. But the connection between means and ends in nature, in life, in society, is not on that account the less certain, and the inference of design from that connection is not on that account the less cogent. It is this connection and inference, wherever the connection can be soberly traced and the inference rationally deduced, that constitute the sound application of the doctrine of final causes.*

Even those who acknowledge the doctrine do not always coincide in the use to be made of it. Lord Bacon pronounced the investigation of final causes

* "I am well aware that to the minds of many persons nothing bears a greater appearance of presumption than any attempt at reasoning respecting the purposes of the Divine Being; and that in many cases it would be thought more consistent with the modesty of humanity to limit its endeavour to the ascertaining of physical causes than to form conjectures respecting divine intentions. But I believe this feeling to be false and dangerous. Wisdom can only be demonstrated in its ends, and goodness only perceived in its motives. He who in a morbid modesty supposes that he is incapable of apprehending any of the purposes of God, renders himself also incapable of witnessing His wisdom; and he who supposes that favours may be bestowed without intention, will soon learn to receive them without gratitude." *Ruskin's Modern Painters*, iv. 106, *note*.

sterile, and his authority has often been quoted against the doctrine; but Dugald Stewart has shown that his dictum applies only against its employment in physics to avoid the abuse of confounding efficient with final causes, without denying its legitimate force and value in metaphysical reasoning, and Mr. Stewart himself holds that Bacon's views on this point, if considered as applicable to the present state of experimental science, are extremely limited and erroneous, and that the recognition of final causes, that is, of the connection between means and ends, is fully admissible even in strictly physical investigations.* Mr. Boyle concludes a disquisition about the final causes of natural things containing much sound observation and deep reflection with a summary, from which it is to be understood that, while firmly maintaining the doctrine of final causes as both allowable and commendable, he considers its application to inanimate bodies whether celestial or sublunary as very unsafe, and that he would limit its use to the explanation of the parts of vegetables and animals, and even of them with great caution.† Mr. Whewell, in his History

* Elements of the Philosophy of the Human Mind, part ii. chap. iv. sect. vi. p. 327; Outlines of Moral Philosophy, part ii. chap. ii. sect. i. p. 449; Philosophy of the Active and Moral Powers of Man, book iii. chap. ii. sect. iv. p. 315.

† "The result of what has hitherto been discoursed upon the four questions proposed at the beginning of this small treatise amounts in short to this: That all consideration of final causes is not to be banished from natural philosophy; but that it is rather allowable and in some cases commendable to observe and argue from the manifest uses of things that the author of nature pre-ordained those ends and uses: that the sun, moon, and other celestial bodies excellently declare the power and wisdom and consequently the glory of God; and were some of them among other purposes made to be serviceable to man: that from the supposed ends of inanimate bodies, whether celestial or sublunary, it is very unsafe to draw arguments to prove the particular nature of those bodies or the true system of the universe: that as to animals and the more perfect sort of vegetables, it is warrantable not presumptuous to say that such and such parts were pre-ordained to such and such uses, relating to the welfare of the animal (or plant) itself or the species it belongs to; but that

of the Inductive Sciences, says that the doctrine may be described as the principle of a *purpose in organization*; and in his Philosophy of the Inductive Sciences he adds that this doctrine of a purpose in organization has been sometimes called the doctrine of the conditions of existence, instead of which he proposes to term it the principle of the conditions of organs as *means* adapted to animal existence as their *end*. He does not deny that the existence of final causes has often been pointed out in other portions of the creation, in the apparent adaptations of the earth and of the solar system to each other and to organized beings; but he holds that in these provinces of speculation the principle of final causes is no longer the basis and guide, but the sequel and result, of our physical reasonings.* Sir John Herschel adopts in substance Mr. Whewell's argument of design from final causes, which in his judgment is irresistibly urged chiefly from being made to rest on its main point of strength, *organization* as distinct from *law*.†

Bacon and Boyle, Whewell and Herschel, thus agree in holding the doctrine of final causes, but differ as to the extent of the domain over which its authority is to be recognized; metaphysics to the exclusion of physics, animate to the exclusion of inanimate nature, animal to the exclusion of vegetable life, and organization to

such arguments may easily deceive, if those that frame them are not very cautious and careful to avoid mistaking among the various ends that nature may have in the contrivance of an animal's body, and the various ways which she may successfully take to compass the same ends: and, that however a naturalist who would deserve that name must not let the search or knowledge of final causes make him neglect the industrious indagation of efficient." Disquisition about the Final Causes of Natural Things, Works, iv. 551.

* History of Inductive Sciences, iii. 457; Philosophy of the Inductive Sciences, ii. 91.

† Essays with Addresses, p. 238.

the exclusion of law, being the respective spheres assigned to it. These limitations have a practical utility, not because they are just in themselves or rest upon any defensible ground but because they inculcate and exemplify the exercise of a calm and discriminating judgment in the application of the doctrine. In them all however we see only the opinions of wise men suggested by the prevailing errors of their times or dictated by their own peculiar temperaments and mental habits, and we miss a regulating and guiding principle which will enable every honest thinker accurately to distinguish between the uses and abuses of the doctrine. Is not such a principle supplied by the simple statement that wherever the mind clearly and distinctly perceives the adaptation of means to ends and the fulfilment of ends by means, there, whether in physics or in metaphysics, in animate or in inanimate nature, in vegetable or in animal life, in law or in organization, it is impelled to draw and is justified in drawing the inference of design? This principle rests on the constitution of the mind itself, and in practice it is broad enough to include every genuine instance, and strict enough to exclude every mere pretence, of final causation.

Let it on the other hand be considered what is the basis of the most recently announced limitation, the distinction between law and organization as applied to this question. Law and organization are certainly not identical, since law may exist without organization; but organization cannot exist without law, and it is precisely the idea of law in organization that gives the latter all its meaning and expresses the connection between organ and function, between means and end. Divest organiza-

tion of law, what will it be or what can it teach? Organ and function are nothing more than specializations of the more general conceptions of means and ends; and if a means and an end can be traced in the operation of any law of inorganic nature, the inference of design is as legitimate in that case as from the connection of organ and function in an organized being. The difference consists, not in the nature of the reasoning, but in the comparative obscurity or clearness of our conceptions. A law of inorganic nature is spread over a wider surface, embraces a greater number of details, and must be gathered from a larger induction of instances, and by our feeble faculties and with our limited knowledge the connection between means and end is less firmly seized than in the case of a law of organization. A law of organization is, as it were, crystallized in a single instance; its operation is concentrated at a single point; the mind promptly grasps the connection between organ and function; and almost intuitively deduces the reasonable conclusion. In the investigation of final causes therefore the distinction between law and organization may be practically of service; but according to rational theory, it does not appear that it can be sustained.

Descartes is usually considered an uncompromising opponent of the doctrine of final causes, and Mr. Boyle in his *Disquisition* on the subject has mainly that philosopher's objections in view; but in fact this eminent thinker may more justly be classed with Bacon, with Boyle himself, and with others who give a qualified support to the doctrine. In the *Principia* indeed he repeatedly denies it without any qualification whatso-

ever.* In the *Meditationes* the objection is limited to the application of the doctrine in physics (in rebus physicis).† In the *Quintæ Responsiones*, pressed apparently by the arguments of others, he admits that it may be employed in ethics (in ethicis).‡ And in the *Passiones Animæ* he makes very large and frequent reference to the uses or ends of our moral constitution, which he expressly ascribes to the appointment of nature (secundum institutum naturæ), a phrase which from the pen of so religious-minded a man as Descartes can only mean the appointment of God.§ But the recognition of uses or ends expressly appointed by God and resulting from appropriate means in the moral constitution of man, is the recognition of final causes, the very doctrine which he began with denying. His argument that it is rash and presumptuous in man to speculate on the purposes of God is a question of feeling and of opinion: others think that wherever the author of nature has even obscurely intimated those purposes, it is the dictate of genuine religious reverence to endea-

* "Ita denique nullas unquam rationes circa res naturales a fine quam Deus aut natura in iis faciendis sibi proposuit, discernimus; quia non tantum non debemus nobis arrogare ut ejus consiliorum participes nos esse putemus: sed," &c. *Principia Philosophiæ*, pars i. p. 8. See also pars iii. p. 50.

† "Totum illud causarum genus quod à fine peti solet in rebus physicis nullum usum habere existimo; non enim absque temeritate me puto posse investigare fines Dei." *Meditationes*, iv. 26.

‡ "Quamvis in Ethicis, ubi sæpe conjecturis uti licet, sit pium considerare quam finem conjicere possimus Deum sibi in regendo universo proposuisse, certè in Physicis, ubi omnia firmissimis rationibus niti debent, est ineptum." *Quintæ Responsiones*, p. 70.

§ "Propositis definitionibus Amoris, Odii, Cupiditatis, Lætitiæ, Tristitiæ, et explicatis omnibus motibus corporeis qui hos affectus producant aut comitantur, solum eorum usus superest considerandus. De quo observandum est quod secundum institutum Naturæ referantur omnes ad corpus, nec animæ imputentur nisi quatenus corpori juncta est; adeo ut eorum usus naturalis sit incitare animam ad consentiendum et contribuendum iis actionibus quæ inservire possunt conservando corpori aut illi aliquatenus perfectius reddendo." *Passiones Animæ*, pars ii. art. cxxxvii. See also art. lii., lxxiv., and lxxv.; and pars iii. art. clxxv., and ccvi.

vour to understand them. His exclusion of the doctrine from physics on the ground that in that science everything ought to rest on very solid reasons (*ubi omnia firmissimis rationibus niti debent*), notwithstanding his admission of it in ethics on the ground that there conjecture is allowable (*ubi sæpe conjecturis uti licet*), is equally untenable, for it takes for granted the very things to be proved, viz. that the conjectural reasoning which is good enough for ethics, the more important department of nature, is not good enough for physics, the less important; and that the reasoning respecting final causes in both departments is conjectural, which, in so far as it has any value, it is not in either.

The Epicureans appear to have been the great opponents of the doctrine of final causes in ancient times, and their rejection of it was a necessary consequence of the sublime isolation to which they relegated the gods and of the imperfection which they professed to discover in creation.* In our own day the physical positivists are its determined adversaries, and their great type is M. Comte, whose denial of the doctrine is a direct corollary from the denial of a supreme will confirmed by the defects he persuades himself he has

* *Omnis enim per se Divûm natura necesse est
Immortali ævo summâ cum pace fruatur,
Semota ab nostris rebus, sejunctaque longe;
Nam, privata dolore omni, privata periclis,
Ipsa suis pollens opibus, nihil indiga nostri,
Nec bene promeritis capitur, nec tangitur irâ.*—*Lucr.* i. 57-62.
*Nequaquam nobis divinitus esse creatam
Naturam mundi: quamquam hæc sint predita culpâ.* ii. 180, 1.
*Nil ideo quoniam natum est in corpore, ut uti
Possemus; sed quod natum est id procreat usum.* iv. 832, 3.
Haud igitur potuere utundi crescere causâ. : 840.
*Quare etiam atque etiam procul est, ut credere possis,
Utilitatis ob officium potuisse creari.* 854, 5.

detected in cosmical law and in animal organization. With characteristic modesty he uses very little ceremony in speaking of the advocates of the doctrine. They are in his opinion ordinarily found "destitute of sound scientific culture;" they are "irrational partisans;" and their doctrine is "an absurd optimism."* Passing by these ebullitions we find that his first and main ground of objection is its alleged irreconcilableness with the principle and spirit of the positive philosophy. This appears in all the special objections, hereafter to be considered, advanced against the doctrine, and it is stated in general terms in laying the foundations of his philosophy. In the positive state, he tells us, the human mind recognizing the impossibility of acquiring absolute notions renounces inquiry into the origin and destiny of the universe and knowledge of the intimate causes of phenomena in order by the well-combined use of reasoning and observation to engage exclusively in the discovery of their effective laws, that is, of their invariable relations of succession and similitude.† Here inquiry into the origin of the universe, that is, respecting a first cause; and into the destiny of the universe, that is, respecting final causes, is represented as equivalent to an attempt to acquire absolute

* "Si les philosophes qui de nos jours tiennent encore à la doctrine des causes finales n'étaient point ordinairement dépourvus d'une véritable instruction scientifique un peu approfondie, ils n'auraient pas manqué," &c. *Philosophie Positive*, ii. 38.—"Toutefois les irrationnels partisans des causes finales s'efforceraient vainement d'appliquer une telle considération à la justification philosophique de leur absurde optimisme." iv. 638.

† "Dans l'état positif, l'esprit humain, reconnaissant l'impossibilité d'obtenir des notions absolues, renonce à chercher l'origine et la destination de l'univers et à connaître les causes intimes des phénomènes pour s'attacher uniquement à découvrir, par l'usage bien combiné du raisonnement et de l'observation, leurs lois effectives, c'est-à-dire, leurs relations invariables de succession et de similitude." *Philosophie Positive*, i. 4, 5.

notions and is placed in purposed contrast with the discovery of laws or invariable relations by means of reasoning and observation, the sole legitimate object in the positive state of the human intelligence. The question of a first cause has already been considered, and we have now to examine this fundamental objection to the doctrine of final causes.

It is obvious to remark that the description which M. Comte here gives of the doctrines he opposes as absolute notions cannot be accepted as correct. It has already been shown that by his own admission the idea of a first cause flows from positive phenomena and is based on natural laws and therefore it cannot be justly represented as an absolute notion; and the same conclusion may be established with respect to final causes. There is nothing absolute in the relation of means to an end, in the relation of an end to means, or in the inference deducible from those relations; and yet those conceptions strictly and literally express all that is meant by the doctrine of final causes. To characterize that doctrine further as an inquiry into the destiny of the universe is equally fallacious. When we shall know the universe, that is, when we shall know all the parts of the vast whole and all the relations of each to each, which is impossible, then also will it be possible for us to speculate on the destiny of the whole. Until then no such speculation engages the attention of the consistent theist; and in the mean time with his limited faculties and in his limited sphere he deems it neither irreligious nor unphilosophical humbly and cautiously to grope his way through the intricacies of phenomena and laws, of means and ends, and thus gradually correct

and enlarge his conception of his own relation to the universe and its author. This is eminently a dictate of positive philosophy conducting to real attainments in positive science.

Not only is the doctrine of final causes not opposed to positive science, but the idea which that doctrine embodies is essential to the completeness of our conception of those phenomena whose laws it is the alleged exclusive province of positive science to consider. The principle which this assertion involves is that our conception of any given phenomenon is imperfect, does not satisfy the legitimate demands of the reason, without some reference to its design, the purpose or end which it fulfils. Take any production of human art, that is, of the human mind, thought, will. Take the common illustration of a watch found in a desert by a traveller who had never seen one before. He examines its exterior covering, the dial with its numbers and indices, and the interior apparatus consisting of wheels and cogs and levers; and from the whole he infers that it is a production of human art and that no small amount of labour and ingenuity must have been called into exercise to adapt the parts to each other. But does the understanding capable of drawing this conclusion rest content without looking or inquiring or searching or speculating farther? Assuredly not. The same intelligence that stimulated and enabled the traveller to scrutinize the different parts of the watch suggests that they must have been framed and adapted to produce some intelligible result. Until this thought has entered his mind the watch is in his hands a mere childish

toy;* but the moment that by his own reflection or by the aid of others he has conceived the design with which it was formed and the purpose it answers, he perceives it to be a useful machine contributing to the comfort and convenience of the possessor. Even if we conceive the possessor able to put the watch in motion and to make himself acquainted with the function of each part in carrying on that motion, that is, if we conceive him fully cognizant of all the laws by which its motions are regulated, yet if we separate from the idea of the watch in his mind all conception of the purpose which those motions are designed to subserve, it is evident that idea must be a mere fragment of the true and complete idea. On that supposition he will regard the watch simply as a piece of ingenious mechanism; but when he further comes to consider the watch as an indicator of time, that is, when he adds to the knowledge of its mechanism the conception of the purpose which it answers, the idea he has thus acquired may still leave his acquaintance with its structure imperfect, but his knowledge is less fragmentary than it was before. The perception of the connection between

* "The long concealed watch was brought to light. . . . The old fellow caught sight of the hidden treasure. I knew that it was useless to attempt any longer to retain it, and handed it over. He was vastly pleased with it. I wound it up and put it to his ear. He was as delighted at the unexpected sound as a child with its first rattle. I explained its use in keeping the hours of the day, but he cared for nothing but the ticking. . . . I was ordered to hold it to the ears of all the visitors to the lodge. Forty times a day it had to come down for this purpose, till I got so tired of my showman's duty that I wished the watch at the bottom of the sea. The Indians, as they listened to its vibrations, would stand in every attitude of silent amazement, their eyes dilated, their countenances lighted up in every feature with delighted wonder, and then break out in a roar of hoarse laughter, the tone of which strongly contrasted with the infantile simplicity of their demeanour." Bourne's Account of his Captivity among the Savages of Patagonia, pp. 77, 78.

means and end is a real addition to his positive knowledge.

Apply this reasoning to the tiniest flower that springs from the ground or to the humblest insect that creeps on its surface; to man whether regarded in the constitution of his body or of his mind; to the earth which he inhabits, to the solar system of which the earth is a single and subordinate member, or to the universe of which that system is a small and insignificant province. In each and in all we perceive beauty, proportion, adaptation; law producing order and progress, variety and unity. But until we add the conception of a purpose, an end for which every being, however humble, exists, whether on the earth, in the air, or in the water; for which man has been physically and mentally constituted as he is; for which the earth both in its internal structure and in its external relations has been formed as we experience and know it to be; for which the solar system and all its parts perform their perpetual rounds; and which the universe as a whole may be conceived to express to a competent intelligence—without some such conception in each case, the idea we form of it may be just and true as far as it goes, but it must be partial and inadequate. Exclude, for any reason speculative or practical, the idea of connection between means and end in any given instance, and in that instance to that extent you confess human ignorance, you limit the domain of positive science. Admit that idea, and even independent altogether of the inference to be drawn from it, you enlarge the boundary of positive science and increase the amount of human knowledge.

The best practical test of this that can be applied is

to appeal to the consciousness of the most cultivated minds. In the investigation of any given act or fact or occurrence in nature or in history, do such minds always rest contented with ignoring its aim or object or end? On the contrary does not such ignorance, where it exists, leave a painful void which by subsequent inquiry and reflection they seek to remove? If the end is wholly unknown do they not instinctively indulge in conjecture? If doubtful, do they not endeavour to change doubt into probability? If probable, probability into certainty? If certain, do they not add that certainty respecting the end as a necessary element entering into their positive knowledge of the act or fact or occurrence? Examine any literary composition, any product of the human intellect; for instance, M. Auguste Comte's *Course of Positive Philosophy*. Peruse and re-peruse it from beginning to end. Analyze it in all its parts. Master it in all its details. Let there be no principle he has advanced, no doctrine he has taught, no error he has assailed, no illustration he has employed, no conjecture he has hazarded which you cannot on the instant cite and verify. But in this process carefully exclude from consideration the design, the purpose, the end which the author proposed to himself, viz. the formation of universal science into a positive philosophy according to which its phenomena in their development follow certain laws of succession of which he claims to be the great discoverer. Such exclusion is impossible. The attempt, if made, would be vain. If successful, and so far as it might be successful, it would reduce the Positive Philosophy to an incoherent ineptitude. The author in a large work, written on a very comprehensive

plan, and in a very diffuse style, with striking tenacity never forgets, and never allows his readers to forget, his main object. It meets you in every volume, in every lecture, almost in every page. It is indissolubly bound up with the entire structure of the work, and if that work is read at all, it must be read with some comprehension of the author's end in writing it. And yet it is this same author who teaches that it is no part of positive philosophy to consider the end for which this goodly world has been framed ; for which man and nature live, move, and exist. We cannot read his book without having his purpose perseveringly forced upon our attention ; and yet he requires us to read the book of mind, of thought, of action, the book of life, of society, of history, without taking into account the end for which it has been spread out before us in legible and instructive characters.

The doctrine of final causes, the idea of the connection between means and end, is not only essential to the completeness of our conception of phenomena, but it may also be made a useful auxiliary in the discovery of those laws by which phenomena are governed and to which the objector would exclusively limit our attention. In illustration of this let us return to the instance of a watch found in a desert by an ignorant traveller. He examines the watch, admires its complicated and ingenious machinery, and arrives at last at the conclusion that it must have been fabricated to subserve some special purpose ; but we shall suppose that he is as yet unable to divine what that purpose is. Before arriving at any conclusion on that point, his admiration is not without good grounds, but it is directed only to the

mechanism and it leaves his mind in a state of comparative inertness without any motive for further investigation. The moment that the idea of a purpose to which all this mechanical contrivance and beauty are only subservient, is conceived, a new interest is created, a new field of reflection is opened before him, a new motive is presented to stimulate his inquiries. He may not at first be successful in those inquiries. He may commit many mistakes. He may venture many erroneous conjectures. He may frame many false hypotheses. He may imagine the watch to be of the nature of a Chinese puzzle formed merely to excite the curiosity or exercise the acumen of youthful minds. He may try whether it will answer the purpose of a compass—assuming that he has the notion of such an instrument—to guide him over the pathless wastes to his destination. If he finds it in working order—which for the sake of the analogy is part of the supposition—he may even imagine that it has a principle of life within itself, and that it regulates its own movements. But the phenomenon, the watch, lies before him, a fixed fact, to correct all his aberrations, and at last to guide him to the true solution of the problem. Even the false suppositions to which he has recourse are not wholly without their use. Like all hypotheses, they are frames to which he seeks to fit the facts under examination; but the facts themselves remain unchanged, and in this process of adaptation, even under the guidance of mistaken hypotheses, he becomes better acquainted with the facts, with the various and complicated parts of the watch, than if he had formed no hypothesis. It is by these means that he weeds error from his mind. It is by the gradual negation of

successive false hypotheses that he approaches nearer and still nearer to the truth ; and it is only when, perceiving the insufficiency of these and all other similar hypotheses, he seizes the idea that the watch was intended by the maker to be a measurer and indicator of time, that a clear and satisfactory light dawns upon his speculations.

The first point to be noticed here is that by the assumption of some end which the watch in the purpose and design of the maker is rationally conceived to fulfil, a powerful stimulus is given to acquire a perfect knowledge of the various parts of the watch. But the benefit does not terminate at this point. This is an advantage gained in the process of searching for and discovering the true end ; but the discovery itself has an additional and a reflex operation. As soon as the true end is apprehended, every part of the watch acquires a new meaning, a new value, a new beauty, because each is viewed in connection with the whole, and the whole as existing for an end which each contributes to accomplish. The relative importance and utility of the different parts are more correctly estimated. The outer shells of the watch in which the works are encased, consisting as they do of the more precious metal, may have been previously conceived to be of the greatest consequence, but they are now seen to be portions of the machine, necessary indeed but subordinate and merely protective of those which essentially contribute to its working ; and in like manner in virtue of the primary conception of the true end of the watch, the true purpose and design of the maker, every separate part is seen precisely to fulfil its appropriate function towards

the accomplishment of the final result. Thus both in the preliminary investigations to which the general and indefinite conception of a purpose, a design, an end incites the mind, and in the investigations consequent upon the discovery of the true purpose, design, and end, a new, an interesting, and a brilliant light is thrown, first, upon the actual phenomena which the watch presents, and afterwards upon the laws by which those phenomena are governed or the conditions upon which they are dependent. In this conception of an end rising into the conception of the true end, the mind has a point of support on which it rests with confidence, a centre from which it surveys and to which it subordinates all the phenomena included within the circle of its vision and belonging to the special object of investigation.

Apply this reasoning to the case of a person who, it will be supposed, awakes for the first time to the recognition of fixed and invariable laws regulating the phenomena of the universe and who with intelligence and industry proceeds to investigate those laws. The supposition is that as yet he has only the conception of law without that of a lawgiver who forms a purpose or design, who contemplates an end, to be accomplished by that law. Under the assumed operation of absolute law he will find large scope for observation, inquiry, comparison, speculation, theory; numerous examples of beautiful organization and orderly arrangement; endless sources of untiring admiration and enjoyment. But just in proportion as he extends his investigations and consolidates their results, such a vast and complicated and coherent and wondrous mechanism without an author or an end must to his profoundest and most

anxious reflections appear the most inscrutable of all possible mysteries. It is not only an effect without a cause, law without a lawgiver, work without a worker, but it is a whole in which, as far as it is known to him, there is seen to be the most admirable fitness of all the parts, the successful execution of the grandest and wisest designs, the accomplishment of the most beneficent and ennobling ends, without any purpose, design, or end at all. Anti-theistic positivism forbids all investigation respecting the author or end, the primary or the final cause, of this sublime panorama or of any of the phenomena which it includes. Here M. Comte brings us and here he leaves us. According to his system of thought, the earth, its phenomena, and their laws can be justly regarded only as an overwhelming enigma, the huge plaything of philosophers who in their turn become the laughing-stock of fools for pretending that their own folly is wisdom.

Assume now that the investigator of nature and of society undeterred by the prohibitions of pseudo-positivism arrives at the conviction that the cause of a phenomenon and the end which the phenomenon answers are elements that enter into the consideration of the phenomenon and that are essential to the completeness of his conception and knowledge of it, and are therefore legitimate objects of scientific and philosophical inquiry. Under the guidance of this new principle he acquires the idea, not only of law, but of a lawgiver; and, not only of a lawgiver, but of an end contemplated in the establishment, development, and operation of law. The assumption of some end for which a given phenomenon exists is strictly positive in its character, since the end,

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whatever it may be, is to be sought only in the phenomenon itself, and the search for it directly contributes to the knowledge of the phenomenon and thus to the promotion of positive science. What the end is, the inquirer at this stage dares not affirm, nor even that there is such an end. He has only as yet conceived the idea that phenomena and the laws of phenomena may not exist for themselves. He has apprehended the possibility of final causes of those phenomena and laws, and this bare conception gives a new stimulus to his investigations, a larger scope to his observations, and a profounder significance to their results. It leads him to seek out an affinity among facts and events previously regarded as wholly unconnected, and it supplies the link by which to attempt to bind them together in a continuous chain. He may perceive, or think that he perceives, affinities that do not exist. He may seek to establish relations that have no foundation in nature or in fact. He may form systems founded on those mistaken relations and affinities. But into whatever errors he may fall, those very errors group together facts and events in an order and connection more or less natural. In so far as the grouping is natural and unforced, it will be recognized and adopted in all succeeding combinations. In so far as it is forced and unnatural, it will be superseded by future investigators; but the facts and events will remain unaltered and will be connected with other facts and events by new and more natural affinities developing new and true purposes, designs, and ends. Thus the mere search, sometimes even the illusory search, for a final cause, promotes the study of phenomena, discovers affinities between them, and con-

tributes to the establishment of those very laws which are deemed by the objector to be the sole objects of scientific inquiry and to preclude all reference to such a cause.

Carry the inquirer one step farther. He has hitherto only conjectured the existence of final causes to which in the mind and purpose of the supreme lawgiver all laws and all the phenomena which they embrace are subordinate and ancillary. Let it now be supposed that he has attained the certain conviction of this principle as an indubitable truth, and that it is in his view no longer a problem to be solved, but a proposition that may be stated in definite terms and established by evidence as clear and decisive as that which proves the existence of law and of a lawgiver. If the proofs of this proposition are drawn from and based upon phenomena, with what show of reason can they be deemed inconsistent with the spirit and principles of positive science? If in any given instance an organ can be shown to possess the nicest adaptation to function, and function to be the perfect fulfilment of the purpose for which the organ can be conceived to exist, where, at what point, in what form, is there any violation of positive science or philosophy when this connection between means and end is proved to rest on unassailable grounds and the rational inference of design is deduced from it? The violation of positive science is in refusing to observe this connection; of positive philosophy in refusing to draw this inference. Assuming not only the strength of the conviction but also the sufficiency of the proofs, without which of course the conclusion cannot be accepted as sound, it is evident that the introduction of

this principle must cast an invaluable light upon the just interpretation of phenomena and laws. It furnishes a clue by which the student of nature and life may connect facts and events the most remote in time and place from each other, establish their mutual connection and their subordination to a common result, unravel their most intricate combinations, and deduce from the whole series a consistent and instructive meaning. The world, in as far as it can be scanned by human faculties, is thus viewed as a compact and coherent whole, the effluence of an invisible power, subject to fixed and invariable law, guided by a wise and beneficent providence, and in all the orders of being and all the departments of life subserving determinate ends. Instead of positive science and philosophy, rightly understood, pursued, and applied, being opposed to such a conclusion, it is only when this conclusion has been attained that positive science has learned and taught its most beautiful, most sublime, and most ennobling lesson, and positive philosophy achieved its greatest, its highest, and its holiest triumph.

Having disposed of this general argument against the doctrine of final causes, we may now briefly consider the special objections advanced against it. These however are presented in a form which does not command very respectful attention ; for not only on this topic does M. Comte largely indulge in his characteristic supercilious language towards opponents, but he suggests arguments for the doctrine which he blames its friends for not employing and which he himself brings forward only in order, by a real or assumed refutation, to achieve an easy victory and proclaim an inglorious

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triumph. He sets up men in buckram for the purpose of peppering them with small shot; but it happens that these which he would present as mere shapes of men turn out to be made of something very like real flesh and blood, so that his small shot rather displays, than destroys, whatever vitality they may possess. The arguments which he raises merely to overthrow, although not such as the advocates of the doctrine would confidently rest on, are shown even by his counter-statements to possess more force than he is willing to concede to them.

M. Comte says that the superficial and ill-informed philosophers who still adhere to the doctrine of final causes have neglected the argument for it to be derived from the consideration of the essential stability of our solar system, a conclusion which he justly represents as the beautiful final result of all the mathematical labours that have been employed on the theory of gravitation. That stability is evidently essential to the continued existence of animated beings, and he generously presents this specious consideration as the basis of a declamatory argument for final causes, an argument however which he immediately, according to his ability, proceeds to demolish. It might have occurred to him as a possible case that the reasons on the part of believers in final causes for not employing the argument may have been those which induced him to reject it; but this would have contained the gratuitous and improbable assumption that they were as well-instructed on such questions and had reflected as deeply as himself. The following is the way in which in this instance he escapes from the force of his own argument. The

admitted stability of the system is, he affirms, a necessary consequence, under the operation of mechanical laws, of the extreme smallness of the planetary masses in comparison with the central mass, the feeble eccentricity of their orbits, and the moderate mutual inclination of their planes, to which he afterwards adds the superiority of their mean density over that of the fluids on their surface; and these characteristic circumstances as he calls them, he considers with Laplace to flow quite naturally from the mode of formation of the system. Since we exist, says M. Comte, it is necessary that the system of which we form a part should be disposed in such a way as to permit that existence. Comets do not possess the same stable conditions and are therefore probably not inhabited. The pretended final cause is thus reduced to the puerile remark that in our solar system none of the bodies that compose it are inhabited except those that are habitable. It is thus argued that the stability of the system so necessary to life and thought is no proof of final, but a mere consequence of mechanical, laws.*

* " Si les philosophes qui de nos jours tiennent encore à la doctrine des causes finales n'étaient point ordinairement dépourvus d'une véritable instruction scientifique un peu approfondie, ils n'auraient pas manqué de faire ressortir avec leur emphase habituelle une considération générale fort spécieuse à laquelle ils n'ont jamais eu égard et que je choisis exprès comme l'exemple le plus défavorable. Il s'agit de le beau résultat final de l'ensemble des travaux mathématiques sur la théorie de la gravitation mentionné ci-dessus pour un autre motif, la stabilité essentielle de notre système solaire. Cette grande notion, présentée sous l'aspect convenable pourrait sans doute devenir aisément la base d'une suite de déclamations éloquentes ayant une imposante apparence de solidité. Et néanmoins, une constitution aussi essentielle à l'existence continue des espèces animales est une simple conséquence nécessaire, d'après les lois mécaniques du monde, de quelques circonstances caractéristiques de notre système solaire, la petitesse extrême des masses planétaires en comparaison de la masse centrale, la faible excentricité de leurs orbites, et la médiocre inclinaison mutuelle de leurs plans; caractères qui à leur tour peuvent être envisagés avec beaucoup de vraisemblance, ainsi que je le montrerai plus tard suivant l'indication de Laplace, comme derivant tout naturellement du mode de formation

This refutation by M. Comte of his own argument seems to contain a favourite idea, for it appears and reappears again and again. Now the argument itself which he has kindly framed for final causes may be good or it may be bad, but the pretended refutation

de ce système. On devait d'ailleurs *à priori* s'attendre en général à un tel résultat par cette seule réflexion que, puisque nous existons, il faut bien de toute nécessité que le système dont nous faisons partie soit disposé de façon à permettre cette existence qui serait incompatible avec une absence totale de stabilité dans les élémens principaux de notre monde. Pour apprécier convenablement cette considération, il faut observer que cette stabilité n'est nullement absolue; car elle n'a pas lieu à l'égard des comètes dont les perturbations sont beaucoup plus fortes et peuvent même s'accroître presque indéfiniment par le défaut des conditions de restriction que je viens d'énoncer, ce qui ne permet guère de les concevoir habitées. La prétendue cause finale se réduirait donc ici, comme on l'a déjà vu dans toutes les occasions analogues, à cette remarque puerile: il n'y a d'astres habités dans notre système solaire que ceux qui sont habitables. On rentre, en un mot, dans le principe des conditions d'existence qui est la vraie transformation positive de la doctrine des causes finales, et dont la portée et la fécondité sont bien supérieures." Philosophie Positive, ii. 38-40. — "Un appendice naturel et intéressant de la théorie hydrostatique de la figure des planètes consiste dans les conditions de la stabilité de l'équilibre des fluides qui recouvrent en totalité ou en partie la surface des astres. Laplace a établi à ce sujet un théorème général aussi simple qu'important qu'un premier aperçu semble d'ailleurs devoir indiquer d'avance. Il fait dépendre cette stabilité, quels que puissent être et le mode de répartition du fluide et la loi interne des densités, de la seule supériorité de la densité moyenne de l'astre sur celle du fluide; caractère si évidemment constaté pour la terre par la belle expérience de Cavendish. On pourrait aisément en faire le texte d'une cause finale, puisque la perpétuité des espèces terrestres exige clairement que l'équilibre des mers, tende à se rétablir spontanément après avoir été momentanément troublé d'une manière quelconque. Mais l'examen attentif du sujet fait aussitôt disparaître la finalité en rendant sensible la nécessité d'un tel arrangement dans la formation primitive des planètes, la densité des couches ayant dû naturellement croître de la surface au centre, comme l'indique si nettement toute la théorie de la figure des astres." p. 285, 6. — "La cause générale de ces importans résultats réside essentiellement dans la faible excentricité de toutes les orbites principales et dans le peu de divergence de leurs plans. Si les astres de quelque importance avaient décrit, comme les comètes, des ellipses très allongées, contenues dans des plans dirigés en tous sens, leurs relations dynamiques auraient été toujours extrêmement variables et leurs perturbations auraient des lors cessé d'être périodiques pour devenir presque indéfinies, ainsi que celle des comètes. Au contraire, en vertu de l'extrême rondeur des véritables orbites et de l'identité presque entière de leurs plans, l'intensité des diverses actions mutuelles ne pouvant qu'osciller entre des limites très rapprochées, doit tendre sans cesse à rétablir l'état moyen du monde. Or, comme les astres à orbites peu excentriques sont évidemment les seuls habitables, cette harmonie fondamentale ne présente réellement aucun texte de cause finale, ainsi que je l'ai indiqué au commencement de ce volume puisqu'il ne pourrait en être autrement qu'à l'égard de mondes tellement constitués que la vie et par suite la pensée, la philosophie théologique ou positive, ne sauraient y exister." pp. 339, 340.

is decidedly feeble and inconclusive. He assumes that he has superseded the notion of final causes when he has explained the stability of the system by the operation of mechanical laws and the existence of those laws by the supposed original mode of formation, and that the affirmation of final causes is a virtual negation or ignoring of those laws and of that mode of formation. But the advocates of final causes may reply that they neither deny nor ignore any of these postulates; that they are willing to accept the mode of formation indicated by Laplace; that they accept the mechanical laws described by M. Comte; that they accept those mechanical laws as the indispensable conditions of the admitted stability of the system, and that stability as the necessary consequence of those conditions; and accepting all these, they see only the more distinctly the connection between means and end, a connection thus shown to be indissolubly interwoven with the entire constitution of the solar system and with the most rational conjectures that can be formed respecting its mode of formation. Does, they may ask, the fact of the operation of those mechanical laws negative the fact of the connection between means and end in the stable constitution of the solar system? It does not. The one fact is perfectly consistent with the other: both are unquestionable. Does the one fact explain the other, that is, does the operation of mechanical laws explain the connection between means and end? It does not. The operation of mechanical laws may explain mechanical effects, but it does not and cannot explain the connection between means and end, which is a conception of the intellect and a product of

the intellect, the conception and product of a designing mind, of a mind that forms and executes a purpose. As M. Comte truly says although in a different sense: Since we exist, the system must be so disposed as to permit our existence. It has been, it is so disposed. In our system animate nature and inanimate nature are adapted to each other. The animate world could not exist without the inanimate: the inanimate subserves the animate. The means exist for the end: the end fulfils the means. Means and end are framed into one another to form a harmonious whole: both in their actual constitution are necessary to the perfection and grandeur of the whole. But this is a result that could not spring from the mere operation of mechanical laws: it demands a creative, informing, and regulating mind. The advocates of final causes may well say that in adducing such an argument and in vaunting such a refutation of it, M. Comte in reality blesses when he means to curse.

They may dispute his refutation of his own argument from another point of view; and in presenting it, the question will be considered, not with reference to the solar system as a whole, but for the sake of greater precision, to the planet to which we belong. The argument for final causes which M. Comte suggests may be thus stated. This earth is inhabited, because the stability of the system renders it fit for habitation; and this adaptation of the earth to man, M. Comte thinks, might be plausibly urged as a proof of final causes, that is, proof of an end willed and of a means employed for its attainment, the end being the habitation of the earth by man, the means the stability of the

system of which the earth is a part. Having suggested this argument, M. Comte endeavours to show that it is plausible only, not convincing, for that the stability of the system, the pivot on which the argument turns, is owing not to any purposed adaptation of means to an end, but under the operation of mechanical laws to certain characteristic circumstances, viz. the comparative smallness of the earth's mass, the feeble eccentricity of its orbit, the moderate inclination of its plane, and the superior mean density of its solid over its fluid constituents. It is only in worlds so constituted that life can exist and thought be exercised, and therefore the habitableness of the earth does not prove that it was made to be inhabited: on the contrary it is inhabited simply because it is habitable.

The advocates of final causes may now appear in their own name and in their own right and pronounce that his answer is no answer at all; that he merely admits the given phenomenon and then presents that phenomenon as its own explanation; that under a change of phrase he assigns the effect to be explained as the cause explanatory of that effect. The argument is that the earth is so constituted that it is a fitting abode for man, from which it is inferred that it was so constituted for his use and that his use of it was and is a final cause or purpose of its actual constitution. We repeat that, whatever strength or weakness it may possess, this is M. Comte's argument, not ours; and his answer to it is that the adaptation of the earth to the use of man is explained by the characteristic circumstances enumerated which alone make it habitable without any reference to an end

willed and a means employed for that end. But it is easy to see that those characteristic circumstances are facts belonging to the given phenomenon and afford no explanation of that phenomenon, but on the contrary themselves require explanation. If we look at a dwelling-house, its foundations, its walls, its roof, its doors and windows, its staircases, and the various apartments into which it is divided, we at once conclude that the house was built for human habitation and that such was the definite purpose contemplated in its construction. What answer would it be to such a conclusion to say, "You are mistaken. It was not built for human habitation. It is inhabited because it is habitable, and it is habitable merely in consequence of the solidity of the foundation, the perpendicularity of the structure, and the excellence of the materials." Why, these are some of the conditions from which it was inferred that the house had been built for human habitation. They are some of the facts of the case which remain to be explained on the supposition that the house was *not* built for human habitation. In like manner the characteristic circumstances of the earth rendering it habitable by which M. Comte seeks to avoid the necessity of a recognition of means and end, a designing mind and a final cause, are precisely some of those conditions by which the connection between means and end is established and the reality of a designing mind and a final cause is proved.

Another argument for final causes, not urged by the friends of the doctrine, but obtruded into the question by M. Comte himself, is that which consists in maintaining that the universe exists for the benefit of man.

But the great discovery of the motion of the earth around the sun disproves that object, for it proves that the earth, the abode of man, is an inferior member of the system to which it belongs; and even that system as a whole is so insignificant as to be almost imperceptible in the immensity of the universe. In the present state of science the supposition of such an object is simply absurd. Its disproof undermines the whole theological system, and we thus understand why the sacerdotal power should have persecuted Galileo and why the religious world in general should have an instinctive repugnance to the important astronomical truth which he contributed to establish. M. Comte is displeased with the superficial philosophers (*les demi-philosophes*)—such men for instance as Kepler, Newton, and Boyle—who believe in final causes, not because they do, but because they do not, employ this argument which he finds it so easy to overthrow; and in rejecting it he thinks that they fall into a grave inconsequence, since he defies them to assign any other intelligible object for that providential action in which they believe. Whether they can or cannot one might have supposed, but for M. Comte's authority to the contrary, that the disuse of a bad argument was a gain to the cause of truth and afforded matter not for reproof but for congratulation. Neither does it consist with the knowledge possessed of truly religious persons (*esprits vraiment religieux*) that they have an instinctive repugnance, or any repugnance at all, to the true theory of the planetary movements; but this remark may have • been dictated by M. Comte's observation of the religious world by which he was surrounded. A doubt however

may be expressed whether such persons, wherever they are to be found, can be correctly described as truly religious, and whether they might not more accurately be regarded as falsely or superstitiously religious. The assumed ground for the persecution of Galileo by the sacerdotal power, viz. the tendency of his theory to subvert the doctrine that the universe exists for the benefit of man, is also open to question. No historical proof of this assumption is adduced. That persecution appears rather to have rested on the fact that Galileo's theory virtually called in question the authority of the church, a ground of hostility that would have been equally strong, if the relative situation of the parties had been reversed, that is, if the rotation of the earth had been the doctrine of the church and if the philosopher had taught that the earth is the immovable centre of the solar system.*

Waiving these points which are irrelevant to the main argument and looking only at the merits of the question,

* " Il convient d'indiquer ici d'une manière générale l'opposition directe et inévitable que présente la connaissance du mouvement de la terre avec tout le système des croyances théologiques. Ce système en effet repose évidemment sur la notion de l'ensemble de l'univers essentiellement ordonné pour l'homme ; ce qui doit paraître absurde, même aux esprits les plus ordinaires, quand il est enfin constaté que la terre n'est point le centre des mouvemens célestes, qu'on n'y peut voir qu'un astre subalterne circulant à son rang et en son temps autour du soleil entre Venus et Mars dont les habitans auraient tout autant de motifs de s'attribuer le monopole d'un monde qui est lui-même presque imperceptible dans l'univers. Les demi-philosophes qui ont voulu maintenir la doctrine des causes finales et des lois providentielles, en s'écartant des notions vulgaires admises de tout temps sur la nature de leur destination, sont tombés, ce me semble, dans une grave inconséquence fondamentale. Car, après avoir ôté la considération, au moins claire et sensible, du plus grand avantage de l'homme, je défie qu'on puisse assigner aucun but intelligible à l'action providentielle. L'admission du mouvement de la terre en faisant rejeter cette destination humaine de l'univers, a donc tendu nécessairement à saper par sa base tout l'édifice théologique. On s'explique aisément ainsi la répugnance instinctive des esprits vraiment religieux contre cette grande découverte, et l'acharnement opiniâtre du pouvoir sacerdotal contre son plus illustre promoteur." *Philosophie Positive*, ii. 172, 173.

we may perceive reason to judge that if the believers in final causation formerly dogmatized by affirming what M. Comte calls the human destination of the universe, he equally dogmatizes now in denying that destination and in pronouncing it inherently and palpably absurd. To argue that it is so, as he does, from the relative inferiority of the earth in the solar system and of the solar system in the universe is as if he were to argue against the intellectual and moral superiority of a man on the ground of his diminutive stature. What do we *know* of the future existence and destinies of the past, present, and future generations of our race? What do we *know* of other planets and other systems and of the vast domain beyond the confines of all visible worlds? What do we *know* either of them or of ourselves that can enable us to affirm with confidence that the universe does or does not exist for man? To affirm that it does is an assertion without proof. To affirm that it does not is the denial without proof of an assertion without proof. The assertion and the denial are equally valueless with a view to any conclusion, for they assert and deny that of which we know and can know nothing either affirmatively or negatively. It is to affirm and deny a proposition which we are utterly without the means of knowing to be either true or false. The laws of just reasoning will permit M. Comte to deny the proposition which he would put into the mouths of his opponents as unproven and unprovable, but not to pronounce it in his characteristic style as absurd according to the judgment of even the most ordinary minds.

If there be at the present day any thoughtful theists who believe that the universe exists solely for the benefit

of man, they do not, even by M. Comte's admission, constitute the entire class of those who maintain the doctrine of final causes. That doctrine may be maintained and yet the ground on which M. Comte assumes it to rest may be disclaimed. In that case he defies theists to assign any intelligible end (*aucun* but intelligible) for the providential action in which they believe. Bearing in mind that this defiance proceeds from the expounder of the positive philosophy, the answer is that, keeping strictly within the limits of positive *data*, within the limits of the earth on which we dwell, and within the limits of the providential action which we witness, the welfare of man and of all sentient and intelligent life in and on and around this planet is a perfectly intelligible end of that action, and a perfectly ample justification of belief in it. Let it be shown what there is that is unintelligible in such an end. Within the limits assigned, the conviction that this is an end or final cause of the providential laws under which we live is not a mere belief, but a belief amounting to knowledge of the most direct and positive kind, for it is an end which we see actually subserved by the whole course of nature, and which therefore it is eminently reasonable to suppose that the providential laws of nature were designed to subserve. In the contemplation of the phenomena and laws of nature, M. Comte may have been unable to perceive this connection between means and end: in the estimation of theists the evidence of such a connection is perfectly irresistible. Admitting the patent fact of the connection between means and end, the inference of design from that fact may have appeared to him irrational: to

theists, the denial of such an inference would be a mere self-stultification, a conscious obscuration and voluntary abuse of their natural faculties.

If M. Comte urges in reply that the foundation is too narrow to bear the superstructure and that the doctrine of a universal providence willing universal ends is not established by the alleged evidence of an earthly providence willing earthly ends, the distinction must not be forgotten between belief and knowledge. We know, or think we know, that there is a providence that shapes our earthly ways to definite and worthy ends, and inferentially we believe that a like providence willing ends no less definite and worthy extends to worlds and systems beyond the ken of the human eye or the grasp of the human intellect. There is nothing unphilosophical in this belief, resting as it does primarily on positive phenomena. Does M. Comte know all that he believes? Does he believe only that which he knows? On the contrary, from experience and history within the limited sphere of European nations he has deduced general laws of historical development which by analogy he holds to be applicable to races and tribes of whom he is as ignorant as is the believer in a universal providence and in final causes of the inhabitants of the last discovered and most remote planet of our system.

M. Comte may still press the believers in a universal providence to assign an intelligible end for its exercise. As the welfare of man is apparently admitted to be a sufficiently intelligible end for the exercise of an earthly providence, since it is only as the object of a universal providence that he proclaims its absurdity, so let us suppose the answer to his demand to be that the welfare

of the sentient and intelligent inhabitants of each heavenly body may be accepted as a sufficiently intelligible end for the exercise of a providence over that body, and thus with every heavenly body in succession. It is admitted that this would be an inadequate answer, for we do not know that there are inhabitants in each heavenly body or in any of them except our own planet; but there is nothing essentially absurd in the supposition, and assuming their existence their welfare is an intelligible end which is all that is demanded. If M. Comte on the ground of this admitted inadequacy renews the demand to assign an intelligible end for a universal providence and defies, as he does defy, the superficial philosophers who believe in final causes to state such an end, the concluding answer is a confession of ignorance which as superficial philosophers in the presence of M. Comte we are compelled to make. We acknowledge with all humility but without any conscious degradation in the admission that we cannot assign an intelligible end for the existence of a universe. Unhappily our limited faculties and the confined sphere within which they are exercised do not enable us to apprehend all the facts from which such an end might be inferred, and it is submitted that on no rational grounds can we be called upon to do that which finite powers are unable to accomplish. We believe in providential laws and in the ends which they are working out, as far as experience, observation, and reflection supply the materials from which to conclude the existence of those laws and their ends. Beyond the boundaries which our faculties embrace we may believe little or we may believe much but we know nothing, and whether we will or not we must remain in igno-

rance. Who is it that defies the sciolists that believe in final causes and providential laws, incites them to pass the limits of positive phenomena, and seeks to force them into the regions of wild speculation and baseless conjecture? It is a positivist *par excellence*, the author of the positive philosophy, the systematizer of positive science, he who exclaims most loudly against theological dreams and metaphysical inanities.

In the midst of the unmitigated contempt expressed by M. Comte for the doctrine of final causes and its supporters, it is interesting to inquire and instructive to ascertain what substitute he proposes for that doctrine, what relation he would recognize among phenomena conformable to the principles of positive philosophy and supplying the place of that which the theological philosophy seeks to establish. He perceives that some such *succedaneum* is necessary and does not refuse to meet the demand. In one word then the doctrine which he teaches instead of that of final causes is the doctrine of the conditions of existence, the latter being affirmed to be as real as the former is vain, and as fruitful as the former is sterile. In order to understand what that doctrine is, it is necessary to refer briefly to a controversy in the revival of which in recent times Geoffroy St. Hilaire and Cuvier took a distinguished part as the representatives of opposite methods or schools in the investigations of natural history. According to the former, the animal kingdom constitutes a single and continuous chain of being progressively ascending by self-creative transmutations from the monad to man; while according to the latter this unity of plan, of composition, and of organization does not exist, and instead of it the principle is maintained that, as nothing can exist if it

do not combine all the conditions which render its existence possible, the different parts of each being must be co-ordinated in such a manner as to render the total being possible, not only in itself, but in its relations to those which surround it, and that it is the analysis of these conditions leading to the discovery of general laws that forms the true business of comparative anatomy and physiological science.

Rightly or wrongly, the former doctrine has been supposed to involve the denial of the doctrine of final causes: Geoffroy St. Hilaire himself said that he took care not to ascribe to God any intention. Rightly or wrongly, the latter doctrine has been identified with the doctrine of final causes: in the writings of Cuvier and his followers, the recognitions of providential design are direct and impressive. And yet it is this latter doctrine, the doctrine of the conditions of existence, which M. Comte contrasts with the doctrine of final causes and proposes to substitute for it. In the same manner, he says, as chemistry substitutes for the absurd primitive ideas of destruction and creation the exact general notions of decomposition and recomposition; in the same manner as astronomy shows that the essential order of the world is the necessary and spontaneous result of the mutual action of the principal masses that compose it without having recourse to final causes and a providential government: so biological science completes this grand demonstration by attacking in its turn and in its own way the elementary dogma of final causes and gradually transforming it into the fundamental principle of the conditions of existence, a transformation which is destined to find in sociology its most

complete scientific development.* We cannot be mistaken in supposing after such assurances that the principle of the conditions of existence is M. Comte's doctrine; that it is the principle by which he would replace the doctrine of final causes; that it is in his view peculiarly and emphatically a principle or doctrine interwoven with and essential to biological science; and that it is destined to find its full expression in sociology. Will it be believed that this favourite and lauded principle of the conditions of existence is, or at least is believed by such writers as Cuvier and Whewell to be, merely another name for the doctrine of final causes which M. Comte so strenuously vituperates?

The phrase *final causes* is derived from the philosophy of

* "Indépendamment de cette spéciale influence philosophique, analogue à celle des autres sciences fondamentales et seulement plus prononcée à certains égards et moins à d'autres, l'étude positive des corps vivans a constamment soutenu dès sa naissance contre le système général de la philosophie théologique et métaphysique une lutte plus originale et plus directe à l'issue de laquelle elle a tendu à transformer définitivement un dogme ancien en un principe nouveau, aussi réel que le premier était vain et aussi féconde que celui-ci était stérile. Chaque branche essentielle de la philosophie inorganique nous a déjà manifesté sous un aspect plus ou moins capital une semblable propriété. Je l'ai signalée, au commencement de ce volume, pour la chimie, substituant à l'absurde idée primitive des destructions et créations absolues de matière l'exacte notion générale des décompositions et recompositions perpétuelles. Dans le volume précédent, l'astronomie nous avait d'abord montré cette tendance sous un point de vue encore plus immédiat et plus fondamental, en représentant l'ordre essentiel du monde comme le résultat nécessaire et spontané de l'action mutuelle des principales masses qui le composent, en même temps qu'elle ruine radicalement, avec une irrésistible évidence l'hypothèse des causes finales et tout gouvernement providentiel. La science biologique, constituée par sa nature plus profondément qu'aucune autre en harmonie philosophique directe et générale avec la science astronomique, ainsi que je l'ai établi, est venu enfin compléter pour les phénomènes les plus spéciaux et les plus compliqués, l'ensemble de cette grande démonstration. Attaquant à son tour et à sa manière le dogme élémentaire des causes finales, elle l'a graduellement transformé dans le principe fondamental des conditions d'existence, dont le développement et la systématisation appartiennent sans aucun doute à la biologie, quoique en lui-même il soit d'ailleurs essentiellement applicable à tous les ordres quelconques de phénomènes naturels." Philosophie Positive, iii. 459. — "La sociologie y devra emprunter à la biologie un principe philosophique très précieux destiné à devenir extrêmement usuel et qui y recevra même son plus entier développement scientifique: il s'agit de cette heureuse transformation positive du dogme des causes finales qui constitue l'indispensable principe des conditions d'existence." iv. 490.

the schools, and in our own times various substitutes have been proposed for it. Dugald Stewart sought to encourage the gradual disuse of it by the indiscriminate employment of the words *ends* and *uses* to convey the same idea. Mr. Whewell suggests as a name, first, the principle of a *purpose in organization*; and afterwards the principle of the conditions of organs as *means* adapted to animal existence as their *end*. Cuvier, followed by Mr. Whewell, expressly identifies the common doctrine of *final causes* with the principle of the *conditions* of *existence*.* It was reserved for M. Comte to place the two phrases, not in apposition as reciprocal terms, but in opposition, in *antithesis*, as mutual contradictories. To do so, however, is to commit the apparent blunder of accepting the scientific statement of a doctrine as the enunciation of a great and productive truth, and denouncing the philosophic statement of the same doctrine as the retention of a puerile and absurd error. M. Comte, believing in the scientific principle of the condi-

* "After all, it were to be wished that the scholastic phrase *final cause*, could without affectation be dropped from our philosophical vocabulary; and some more unexceptionable mode of speaking substituted for it. In this elementary work I have not presumed to lay aside entirely a form of expression consecrated in the writings of Newton and of his most eminent followers; but I am fully sensible of its impropriety and am not without hopes that I may contribute something to encourage the gradual disuse of it by the indiscriminate employment of the words *ends* and *uses* to convey the same idea." Elements of the Philosophy of the Human Mind, part ii. chap. iv. sect. vi. p. 334.

There are "two antagonist schools of physiologists."—"The disciples of the former express their tenets by the phrases *unity of plan*, *unity of composition*."—The rival view "has been put forwards as the doctrine of the *conditions of existence*: it may also be described as the principle of a *purpose in organization*." History of the Inductive Sciences, iii. 456.—"The doctrine of a purpose in organization has been sometimes called the doctrine of the conditions of existence." Instead of this "we might term it the principle of the conditions of organs as *means* adapted to animal existence as their *end*." Philosophy of the Inductive Sciences, ii. 90.

"L'histoire naturelle a cependant aussi un principe rationnel qui lui est particulier et qu'elle emploie avec avantage en beaucoup d'occasions; c'est celui des *conditions d'existence*, vulgairement nommé des *causes finales*." Le Règne Animal, tome i. introduction, p. 5.

tions of existence is according to this view an unconscious believer in the contemned and repudiated philosophic doctrine of final causes.

It would be unfair, however, to M. Comte to press this seeming inconsistency against him without advert- ing to a qualification of its force which another consideration presents. It has been already stated that the principle of unity of plan in the animal kingdom has been conceived to involve a denial of the doctrine of final causes. But this is by no means a necessary implication, and Mr. Owen expressly denies its validity and affirms it to be incorrect and gratuitous. That eminent investigator, although very far from being an adherent of the St. Hilairian school, teaches in his own peculiar sense a doctrine of unity, and at the same time dwells with evident strong conviction upon the numerous and manifest proofs of design in animal structure.* In like manner it has been mentioned that the principle of the

* "In the Ruminants confined to arid deserts we should hardly expect to meet with the mechanism which seems expressly adapted to the marsh and the swamp; and in fact every trace of the second and fourth digits has disappeared from the feet of the camel and dromedary. The comparison of the bones of the extremities is replete with these beautiful evidences of design; but our present purpose is to gather the indications of that which has been sometimes, *but wrongly*, regarded as the antithetical principle, viz. the unity of plan which lies at the bottom of all the adaptive modifications."—"The satisfaction felt by the rightly constituted mind must ever be great in recognizing the fitness of parts for their appropriate functions; but when this fitness is gained, as in the great toe of the foot of man and of the ostrich, by a structure which at the same time betokens harmonious concord with a common type, the prescient operation of the one cause of all organization becomes strikingly manifested to our limited intelligence."—"Those physiologists who admit no other principle to have governed the construction of living beings than the exclusive and absolute adaptation of every part to its function, are apt to object to such remarks as have been offered regarding the composition of the skeleton of the whale's fin and of the chick's head that 'nothing is made in vain;' and they deem that adage a sufficient refutation of the idea that so many apparently superfluous bones and joints should exist in their particular order and collocation in subordination to another principle; conceiving *quite gratuitously* in my opinion, the idea of conformity to type to be opposed to the idea of design."—"General anatomical science reveals the unity which pervades the

conditions of existence is usually identified with the doctrine of final causes ; but M. Comte, although he has not said, might say that this identification is as unauthorized and erroneous as the previous implication. As an honest inquirer may believe in the scientific principle of unity and at the same time believe in the philosophic doctrine of final causes : so such an inquirer may believe in the scientific principle of the conditions of existence and at the same time deny the philosophic doctrine of final causes.

In order to perceive the correctness of the latter statement, it is only requisite to distinguish with care the respective parts performed by science and philosophy in establishing the doctrine of final causes. Science recognizes, investigates, explains the conditions under which an animal exists and in conformity with which its members are co-ordinated, its functions performed, and its relations with animate and inanimate nature maintained. It is conversant only with phenomena, their affinities, and their laws. It affirms that organs are in accordance with functions and functions in accordance with organs ; that means are adapted to ends and that ends are fulfilled by means. Beyond this point science does not pass. It draws no inference, it deduces no conclusion, it teaches no doctrine. Just at the point where science ends, philosophy begins ; and from the phenomena of science and the laws and relations which it establishes, philosophy draws an inference, deduces a conclusion,

diversity and demonstrates the whole skeleton of man to be the harmonized sum of a series of essentially similar segments, although each segment differs from the other, and all vary from their archetype." Owen on the Nature of Limbs, pp. 34, 38, 84, 119. See also his Lectures on Invertebrate Animals, pp. 368, 370 ; those on Vertebrate Animals, pp. 10, 146, 147 ; and those on Parthenogenesis, p. 5.

teaches a doctrine. It tells us that where the conditions of existence are consentaneous, where the internal constitution of the animal is in harmony with itself and with its external circumstances, where organ is in agreement with function and function with organ, where means is adapted to end and end fulfilled by means, the inevitable inference is that this harmony, co-ordination, accordance, adaptation of the conditions of existence—call it by what name you will—must be the product of mind, of thought, of purpose, of design. The scientific view embraces all that is essential to the principle of the conditions of existence, while the philosophic view transforms that principle into the doctrine of final causes. It is easy to see that one inquirer may rest in the scientific view, in the principle of the conditions of existence, without going any farther; that another may advance from it to the philosophic view, to the doctrine of final causes; and that each would be right in all that he affirms and either wrong in contradicting the other. It thus appears that Cuvier and Whewell cannot be considered strictly correct in identifying the scientific principle with the philosophic doctrine, since the latter obviously contains and expresses more than the former, and that consequently M. Comte may have been a sincere believer in the scientific principle at the same time that he rejected the philosophic doctrine. On the other hand, it is no less evident that the scientific principle contains nothing which the philosophic doctrine does not embrace, and it is difficult therefore to understand, if M. Comte's ideas on the subject were clear and well-defined to his own mind, how he could place the two in such marked and hostile contrast. Moreover,

the relation of the scientific principle and the philosophic doctrine to each other is the exact reverse of that which he has assigned. According to him, the scientific principle is a transformation of the philosophic doctrine, the doctrine being old, vain, and sterile, the principle new, real, and fertile; whereas the analysis of their elements shows that the doctrine is an outgrowth from the principle, depending upon the principle for its evidence, and resting all its weight upon and deriving all its strength from that evidence. The proofs of final causes are strictly scientific, and philosophy builds the doctrine solely upon those proofs. On this subject it seems impossible to vindicate M. Comte from one apparent mistake without involving him in inconsistencies equally fatal to his accuracy of thought and language.

In the one point of view M. Comte places two definitions or descriptive phrases in irreconcilable antagonism which are really expressions of the same doctrine: in the other he affirms a real distinction between the principle of the conditions of existence and the doctrine of final causes, but reverses the rational order of their development, and fails to perceive that, although they are different, they are mutually complementary. That the principle of the conditions of existence had a high scientific value in his eyes, and that by means of it he linked in indissoluble connection organ and function, means and end, appears from numerous passages in his Positive Philosophy. Thus he enunciates the following formula as the double problem of biological science: Given the organ or the organic modification, to find the function or the act, and reciprocally. He recognises as an established principle in biology that of determining

either the function from the organ or the organ from the function. He holds that there is no more an organ without a function than a function without an organ. He maintains that biology is perpetually employed in establishing an exact harmony between the consideration of the means and that of the end. In social physics, in opposition to the speculations which assign to humanity an arbitrary succession of identical phases, he claims for it an end exactly determined by the totality of our nature. He conceives that the condition of continuity constitutes an indispensable element of the definitive notion of the progress of humanity. He represents the entire series of the anterior transformations of humanity as the necessary and continuous evolution of an inevitable and spontaneous development whose final direction and general course are exactly determined by wholly natural laws; that humanity has its natural end previously determined; and that the different successive generations of humanity concur in its realization. He considers that the preponderance of the affective over the intellectual faculties in man is indispensable in order to give the latter a permanent object and a determinate direction; that the preponderance of the personal over the social instincts assigns a permanent and effective end for the direct and continuous employment of our individual activity; that the necessary preponderance of the affective faculties fixes the object and the direction of the social state; and that all the faculties of our nature concur in a common object in conformity with appropriate laws. He says that it would be superfluous to prove the final tendency of all human conceptions to a purely positive state; and that the effective term of the

intellectual evolution is no more susceptible of dispute than its necessary point of departure. Finally, he blames religion for its sterility in consequence of its alleged want of some comprehensible object, and offers the positive philosophy as adapted to satisfy as much as possible the craving for immortality always inherent in our nature.*

* "Le double problème biologique peut être posé, suivant l'énoncé le plus mathématique possible, en ces termes généraux : *étant donné l'organe ou la modification organique, trouver la fonction ou l'acte, et réciproquement.*"—"Nous avons établi en effet qu'il s'agit toujours en biologie de déterminer ou la fonction d'après l'organe, ou l'organe d'après la fonction."—"Il n'y a pas plus d'organe sans fonction que de fonction sans organe."—(La science biologique) "par sa nature s'occupe continuellement d'établir une exacte harmonie entre la considération du moyen et celle du but."—"Un but exactement déterminé par l'ensemble de notre nature."—"La condition de continuité constitue un élément indispensable de la notion définitive du progrès de l'humanité."—"C'est uniquement à la philosophie positive . . . qu'il appartient d'achever ce qu'elle seule a réellement commencé en représentant . . . la suite intégrale des transformations antérieures de l'humanité comme l'évolution nécessaire et continue d'un développement inévitable et spontané, dont la direction finale et la marche générale sont exactement déterminées par des lois pleinement naturelles."—"Son but naturel" (but naturel de l'humanité), "préalablement déterminé."—"En indiquant . . . les diverses générations successives de l'humanité comme concourant aussi à un même but final."—"La prépondérance actuelle de nos facultés affectives n'est pas seulement indispensable pour retirer continuellement notre faible intelligence de sa léthargie native, mais aussi pour donner à son activité quelconque un but permanent et une direction déterminée."—"Cette indispensable prépondérance des instincts personnels peut seule imprimer à notre existence sociale un caractère nettement déterminé et fermement soutenu, en assignant un but permanent et énergique à l'emploi direct et continu de notre activité individuelle."—"Les facultés purement affectives, dont la prépondérance nécessaire fixe le but et la direction de l'état social."—"De manière à faire habituellement concourir au but commun toutes les facultés quelconques de notre nature, selon les lois qui leur sont propres."—"Il serait très-superflu d'y prouver dogmatiquement la tendance finale de toutes les conceptions humaines à un état purement positif."—"Le terme effectif de l'évolution intellectuelle n'est pas plus susceptible de contestation que son point de départ nécessaire."—"La religion ne pouvait au fond reconnaître que des individus passagèrement réunis, tous absorbés par une destination purement personnelle, et dont la vaine association finale, vaguement reléguée au ciel, ne devait offrir à l'imagination humaine qu'un type radicalement stérile, faute d'aucun but saisissable. La restriction même de toutes nos espérances à la vie réelle, individuelle ou collective, peut aisément fournir sous une sage direction philosophique, de nouveaux moyens de mieux lier l'essor privé à la marche universelle, dont la considération graduellement prépondérante constituera dès lors la seule voie propre à satisfaire autant que possible ce besoin d'éternité toujours inhérent à notre nature." Philosophie Positive, iii. 304, 408, 461, 464; iv. 230, 233, 236, 336, 457, 548, 552, 557, 620, 688; vi. 861.

Can the advocate of final causes desire a more explicit or ample recognition of the connection between organ and function, between means and end, a connection which lies at the very foundation of that doctrine? It is true that M. Comte does not draw the legitimate inference, the inference of design, from that proved and admitted connection; but his failure to perceive the necessity of that inference obviously arises from the peculiar bias of his mind, the special object of his work, and the whole scope of his philosophy limiting his attention to the scientific view of the subject, and it in no degree invalidates the justness of that inference in the estimation of those who can emancipate themselves from his self-imposed shackles. Is it not a tribute to the truth of the doctrine of final causes that all that is essential to its scientific proof is supplied by its opponents? The inference of design which they are unable or unwilling to draw from the phenomena is one of the correctness of which the plainest understanding is as competent to judge as an intellect imbued with all the acquisitions of the profoundest science. The grounds of the doctrine are not to seek. They are at hand. They are patent. They are indisputable. They are undisputed. Respecting the reasonableness of the doctrine placed on those grounds, it belongs to the unsophisticated sense of mankind to pronounce.

It is true also that M. Comte not only denies the doctrine of final causes in the face of his own admissions to his opponents, but even seems disposed to shake the credit of his own principle, that of the conditions of existence. It has been shown that he maintains the double problem of biology to be: Given the organ to find the function,

or given the function to find the organ; that the business of that science is to determine the function by the organ, or the organ by the function; that an organ can no more be conceived without a function than a function without an organ; and that an exact harmony exists between the means and the end. These propositions constitute the principle of the conditions of existence which he places in opposition to, and in contrast with, the doctrine of final causes; and yet in the teeth of this very principle he vaunts as a refutation of that doctrine and as a triumph over the absurdities and puerilities of the pseudo-philosophers who hold it, that certain portions of the human organism are useless, are hurtful, exert an uncompensated disturbing action, and are not superior nor even equal to what human wisdom could devise. The inconsistency of such allegations with the maintenance of necessary and invariable law and the supercilious tone towards opponents in which they have been advanced, have already received notice.* They come now under consideration as a direct and formal contradiction of the principle of the conditions of existence. If there is really no mode of explaining the apparent anomalies which he adduces, the triumph which they secure to M. Comte is a triumph over himself and his own favourite principle. He literally and laboriously refutes himself, and then raises a shout of victory as if he had refuted his opponents.

The believers in final causes deny no actual phenomenon however anomalous, however apparently useless or unwise, disturbing or even hurtful, being content for its explanation to await in temporary and confessed

* See pp. 30-36, 90-96, and 124, 125, where the passages are given.

ignorance the progress of scientific discovery and the improvement of philosophic methods. The writings of Mr. Owen afford an instructive illustration of the advantages to be derived from this wise and provident caution. That author has established, at least to his own conviction, that in the composition of the skeleton of the whale's fin and of the chick's head there exist certain apparently superfluous bones and joints. Does he therefore with M. Comte rush into an inconsiderate denial of final causes? On the contrary, it has been already shown that he deserves to be ranked by M. Comte with such superficial philosophers as Newton and Boyle, Cuvier, Whewell, and Herschel, who firmly hold that doctrine. But what explanation does he give of the apparently superfluous bones and joints which the doctrine of final causes wholly fails to elucidate? He shows that they exist in their particular order and collocation in subordination to another principle; that that principle is conformity to type; that that type is an ideal exemplar on which it has pleased the creator to frame certain of his living creatures; that that exemplar finds its most complete development in man, but that it was partially manifested under various modifications before man appeared; that those partial approaches to it adequately explain the apparently superfluous bones and joints in the whale's fin and the chick's head; and that the adoption of this archetypal idea is not only perfectly consistent with the doctrine of final causes, but, in concurrence with that doctrine, strengthens the belief in the prescient operation of the one cause of all organization. Thus true science, bold enough to think independently, humble enough to think reverently, sees

the proofs of law in apparent anomalies, and of design in actual superfluities.*

Such are all the objections that have been discovered in M. Comte's voluminous work against the theory of a supreme will, all the arguments that one of the most acute and comprehensive minds has been able to produce against the doctrines of a primary cause, of providential laws, and of final causes; and whether the form or the substance of them is considered they must be pronounced wholly unequal to the importance of the questions discussed and the conclusions drawn, as well as to the reputation of the writer and the pretensions he has advanced. Every one accustomed to philosophic thought and investigation must feel and acknowledge that in such inquiries there is demanded not only a logical dependence between the premisses and the conclusion, but also a moral congruity between the manner and the matter; that when grave questions are treated they should be presented in formal propositions and argued with measured and deliberate phrase; and that when a very confident tone is assumed it must be sup-

* See the passages cited, p. 303, *note*, to which add the following: "The recognition of an ideal exemplar for the vertebrated animals proves that the knowledge of such a being as man must have existed before man appeared. For the divine mind which planned the archetype also foreknew all its modifications. The archetypal idea was manifested in the flesh under divers such modifications upon this planet long prior to the existence of those animal species that actually exemplify it. To what natural laws or secondary causes the orderly succession and progression of such organic phenomena may have been committed we as yet are ignorant. But if, without derogation of the divine power, we may conceive the existence of such ministers and personify them by the term 'nature,' we learn from the past history of our globe that she has advanced with slow and stately steps, guided by the archetypal light, amidst the wreck of worlds, from the first embodiment of the vertebrate idea under its old Ichthyic vestment, until it became arrayed in the glorious garb of the human form." On the Nature of Limbs, p. 86.—"With regard to the structural correspondences manifested in the locomotive members, if the principle of special adaptation fails to explain them and we reject the idea that those correspondences are manifestations of some archetypal exemplar on which it has pleased the creator to frame certain of his living creatures, there remains only the alternative that the organic atoms have concurred fortuitously to produce such harmony." P. 40.

ported and justified by a corresponding weight of proof. On the extent or accuracy of M. Comte's scientific acquirements it does not belong to this place or occasion to pronounce. His sincerity and good faith, even when he is deemed most mistaken, are not questioned. But the recklessness, the crudeness, the arrogance, and the egotism of his assaults upon the truths held most sacred by the majority of civilized nations and of cultivated minds are open to severe condemnation. In this work we have the most momentous questions settled, as it were, parenthetically, summarily, *ex cathedrâ*; the loftiest self-satisfaction expressed with reasonings and conclusions alleged to be irrefutable and to be patent to the meanest understandings, and yet resting on self-contradictions, on gratuitous assumptions, and on palpable inconsequences. The earnest inquirer may well deem, that, on whatever side truth or error may be found, it is not thus that error can be overthrown and truth established. It is not thus that the boundaries of positive science are to be ascertained, its jurisdiction extended, and its authority recognized and confirmed.

The conclusion at which we have arrived may be briefly stated. The question raised was to determine on what principle history is to be interpreted, whether according to the theory of chance, of law, or of will. It has been shown that the theory of chance is inadequate to the explanation of nature and life, and that those phenomena which are apparently favourable to it are resolvable into our own ignorance. It has been shown that the theory of law as opposed to that of chance is established by an overwhelming amount of evidence, but that it is subject to two qualifications; first, that in virtue of the limitation of our faculties we

cannot in certain cases prove law to exist where it probably does exist ; and second, that law describing only a conception of the mind, although an eminently real conception, only a relation of phenomena, although an eminently positive relation, cannot as such constitute the basis of nature and life, but demands something higher from which it emanates, something deeper on which it rests. Finally, it has been shown that this desideratum is supplied by the theory of will, a supreme will, of which all phenomena and laws are the expressions, and of which under different but accordant aspects we may conceive as a primary cause, the source of all being, and as a presence, a power, a providence informing all nature, energizing all life, exercising a just and wise and beneficent moral government over rational creatures, and guiding all events to their destined ends.

The argument has been minute and dry and wholly inadequate to the majesty of the theme. The conclusion constitutes the grandest and most solemn truth that can occupy the human mind. By the very constitution of our nature no one can deny this truth without self-contradiction. The terms in which the denial is expressed contain its refutation, since without the reality of the truth denied the denial could be neither conceived nor communicated. No one can intelligently accept this truth, without perceiving that it is the key-stone of the great arch of nature and life, of society, of polity, and of history. The phenomena and laws of history can be understood and explained only by the admission of this great central conception of a supreme will, a divine providence, embracing, directing, and controlling all things, all beings, and all events, in all space and in all time.

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CHAPTER III.

EXAMINATION OF THE POSITIVE METHOD IN THE USE OF
HYPOTHESES AGAINST THE THEORY OF WILL.

THE preceding investigation of the principal theories of history terminating in favour of the theory of a supreme will, and of the chief objections to the fundamental ideas involved in the conception of such a will, would be incomplete without some consideration of the philosophic method which M. Comte has employed in endeavouring to subvert the foundations of all theistic belief and to construct his system of positive philosophy on its ruins. An estimate however of his entire method is neither requisite nor admissible in this place. One feature of it, for instance, that gives a character to the whole of his speculations is his co-ordination of the sciences which, however admirable in many respects, must at least be deemed essentially defective, as it entirely omits the recognition either of economical, mental, or moral science ; but a discussion either of its merits or demerits would be foreign to the present purpose. Another feature is the fundamental law of human development which he claims to have discovered

in the theologico-military, in the metaphysico-legal, and in the scientific-industrial order, and which even still more largely than the former has moulded his habits of thought, his interpretations of fact, and his theories of society; but an examination of this law would be here premature and is expressly deferred to a future volume. A third feature is the rules which he lays down for hypothetical reasoning, and it is this portion of his method which it is now proposed to consider, because it has a direct bearing on the questions that have already engaged our attention. The objects proposed in this chapter therefore are, first, to understand the rule which M. Comte prescribes for hypothetical reasoning; second, to judge how far it is sound and legitimate in principle; and, third, to inquire how far M. Comte has himself observed the rule which he would impose on others.

SECTION I.

Use and Abuse of Hypotheses.

A HYPOTHESIS is a proposition or doctrine which is only supposed or assumed to be true for the occasion, and is employed to prove or to disprove its consistency with known facts and with sound reasoning. If consistent with facts and reasoning, it ceases to be a mere hypothesis and becomes a truth. If inadequately explanatory of facts and inconsistent with reasoning, it continues to be a mere hypothesis or it is degraded into the rank of a positive error. Thus the ellipticity of the planetary orbits was once a hypothesis: it is now a known truth. The existence of an ether the vibrations of whose particles produce light is a received but unproved and, according to some, an unprovable hypothesis. The vortices of Descartes are an exploded hypothesis.

A theory is a proposition or doctrine which in the mind of the thinker is the basis of a system of thought and the legitimate interpretation of observed phenomena. Thus the theory of chance to the believer in chance, the theory of law to the believer in law, the theory of

will to the believer in will, is the point of view respectively from which phenomena are contemplated and by which they are explained. A theory is not merely supposed or assumed to be true, but is believed and maintained as true. A true theory may be regarded by its opponents as a false hypothesis : a false hypothesis may be regarded by its friends as a true theory. The application of the two terms depends on the point of view at which the thinker places himself.

Before a hypothesis can become a theory, that is, before an assumed can become an accepted doctrine, it must be subjected to an appropriate scrutiny ; and the nature of this process, the rule which M. Comte prescribes for conducting it, the use he would make of it, the limitations he would impose, and his general estimate of the utility of hypotheses are thus in substance expressed. Treating of physics he defines a hypothesis to be an anticipation of results, a provisional and at first an essentially conjectural supposition as to some of the notions that constitute the final object of research ; and the employment of such anticipations as suppositions, that is, of such hypotheses, he considers indispensable in natural philosophy. In order however to their useful employment he requires one essential condition, viz. that they must by their nature be susceptible of positive verification, more or less remote, but always clearly inevitable, and exactly harmonizing in the degree of precision with that which the study of the corresponding phenomena requires. He explains this condition by adding that in other words truly philosophical hypotheses must always exhibit the character of simple anticipations of what experiment and

reasoning would have been able instantly to explain, if the circumstances of the problem had been more favourable. Under the operation of this rule he would apply hypotheses only to the analysis of phenomena with a view to the discovery of their effective laws, that is, their constant relations of succession or of similitude, and would exclude all consideration of their innermost nature, their *cause* whether primary or final, and their essential mode of production. In order apparently to mark more strongly the exclusion of hypotheses that propose the discovery or explanation of the modes of production of phenomena, he proceeds to distinguish all hypotheses into two classes, the first including those which relate simply to the laws of phenomena, the second those which aim to determine the general agents of the different kinds of natural effects; and of these the former alone he considers admissible, while the latter he denounces as essentially chimerical, anti-scientific, and obstructive. This distinction he illustrates at considerable length, and finally sums up his fundamental doctrine on this subject by emphatically pronouncing that every scientific hypothesis, in order to be a legitimate object of investigation, must exclusively relate to the laws of phenomena and never to their modes of production.*

* "*Théorie fondamentale des hypothèses.* Il ne peut exister que deux moyens généraux propres à nous dévoiler, d'une manière directe et entièrement rationnelle, la loi réelle d'un phénomène quelconque, ou l'analyse immédiate de la marche de ce phénomène, ou sa relation exacte et évidente à quelque loi plus étendue préalablement établie; en un mot, l'induction ou la déduction. Or, l'une et l'autre voie seraient certainement insuffisantes, même à l'égard des plus simples phénomènes, aux yeux de quiconque a bien compris les difficultés essentielles de l'étude approfondie de la nature, si l'on ne commençait souvent par anticiper sur les résultats, en faisant une supposition provisoire, d'abord essentiellement conjecturale, quant à quelques-unes des notions mêmes qui constituent l'objet final de la recherche. De là, l'introduction, strictement indis-

These views respecting *hypotheses* receive further illustration from the analogous views that are presented on the use of what M. Comte calls *theory* when he is engaged in expounding the character of the positive

pensable, des hypothèses en philosophie naturelle. Sans cet heureux détour, dont les méthodes d'approximation des géomètres ont primitivement suggéré l'idée générale, la découverte effective des lois naturelles serait évidemment impossible, pour peu que le cas présentât de complication; et toujours le progrès réel serait au moins extrêmement ralenti. Mais l'emploi de ce puissant artifice doit être constamment assujéti à une condition fondamentale, à défaut de laquelle il tendrait nécessairement, au contraire, à entraver le développement de nos vraies connaissances. Cette condition, jusqu'ici vaguement analysée, consiste à ne jamais imaginer que des hypothèses susceptibles par leur nature d'une vérification positive, plus ou moins éloignée, mais toujours clairement inévitable, et dont le degré de précision soit exactement en harmonie avec celui que comporte l'étude des phénomènes correspondans. En d'autres termes, les hypothèses vraiment philosophiques doivent constamment présenter le caractère de simples anticipations sur ce que l'expérience et le raisonnement auraient pu dévoiler immédiatement, si les circonstances du problème eussent été plus favorables. Pourvu que cette seule règle nécessaire soit toujours et scrupuleusement observée, les hypothèses peuvent évidemment être introduites sans aucun danger, toutes les fois qu'on en éprouve le besoin, ou même simplement le désir raisonné. Car on se borne ainsi à substituer une exploration indirecte à l'exploration directe, quand celle-ci serait ou impossible ou trop difficile. Mais, si l'une et l'autre n'avaient point au contraire le même sujet général, si l'on prétendait atteindre par l'hypothèse ce qui en soi-même est radicalement inaccessible à l'observation et au raisonnement, la condition fondamentale serait méconnue et l'hypothèse sortant aussitôt du vrai domaine scientifique deviendrait nécessairement nuisible. Or, tous les bons esprits reconnaissant aujourd'hui que nos études réelles sont strictement circonscrites à l'analyse des phénomènes pour découvrir leurs *lois* effectives, c'est-à-dire leurs relations constantes de succession ou de similitude, et ne peuvent nullement concerner leur nature intime, ni leur cause ou première ou finale, ni leur mode essentiel de production, comment des suppositions arbitraires auraient-elles réellement plus de portée? Ainsi, toute hypothèse qui franchit les limites de cette sphère positive ne peut aboutir qu'à engendrer des discussions interminables en prétendant prononcer sur des questions nécessairement insolubles pour notre intelligence."—"Les diverses hypothèses employées aujourd'hui par les physiciens doivent être soigneusement distinguées en deux classes: les unes, jusqu'ici peu multipliées, sont simplement relatives aux lois des phénomènes: les autres, dont le rôle actuel est beaucoup plus étendu, concernent la détermination des agens généraux auxquels on rapporte les différens genres d'effet naturels. Or, d'après la règle fondamentale posée ci-dessus, les premières sont seules admissibles; les secondes, essentiellement chimériques, ont un caractère anti-scientifique, et ne peuvent désormais qu'entraver radicalement le progrès réel de la physique bien loin de le favoriser: telle est la maxime philosophique que je dois maintenant établir:—*Toute hypothèse scientifique, afin d'être réellement jugeable, doit exclusivement porter sur les lois des phénomènes et jamais sur leurs modes de production.*" Philosophie Positive, ii. 433-436, 437, 454. The words italicized in the preceding quotations are so distinguished by M. Comte.

method in the study of social phenomena. The passage is too long for quotation entire, but its spirit will be sufficiently understood for the present purpose by the following summary. In sociology, as in biology, he distinguishes three modes of scientific investigation; observation, experiment, and comparison (*l'observation pure; l'expérimentation proprement dite; et enfin la méthode comparative*). In explaining the first of these, he commences by denouncing the absurd theory of historical pyrrhonism, the sophistical aberrations that dogmatically deny all true certainty to social observations even when direct, and next the scepticism that affirms the radical uncertainty of indirect or mediate observations in the form of human testimony. He then proceeds to refute the systematic empiricism which is attempted to be imposed on social and especially historical observations by dogmatically interdicting, on the ground of impartiality, the use of any theory whatsoever. In opposition to this dogma he teaches that no genuine observation is possible except in so far as it is primarily directed and finally interpreted by some theory; that every isolated and entirely empirical observation is essentially worthless and even radically uncertain; that science can make use of those observations only which are attached, at least hypothetically (*au moins hypothétiquement*), to some law; that without the luminous indication of an antecedent theory the observer most frequently does not even know what he ought to regard in the fact that occurs before his eyes; that it is by the colligation of the facts that precede that we learn rightly to contemplate those that follow; that theory, destined to bind the present with

the past, is nowhere more necessary than in the observation of social, the most complicated of all natural, phenomena; and that in this class of phenomena above all others the better we can unite together the facts that are known, the better we shall be able not only to appreciate, but even to perceive, the facts that are as yet undetermined. It is the absence of all positive theory that renders social observations so vague and incoherent. Facts are not wanting, but although we are immersed in them, they remain profoundly sterile and are even essentially unperceived for want of the intellectual dispositions and the speculative or theoretical indications indispensable to their true scientific investigation. Statical observation cannot become truly effective except by directing it thenceforth in accordance with some, however imperfect, preliminary apprehension of the essential laws of social unity; and it is still more evidently so with respect to dynamical facts which would have no fixed meaning if they were not at once connected, were it only by a simple provisional hypothesis (*fût-ce par une simple hypothèse provisoire*), to the fundamental laws of social development. Sound social philosophy will thus utilize the labours of conscientious erudition and of historical research and it will banish only works without end, without principle, and without character (*travaux sans but, sans principe, et sans caractère*), which contribute only to encumber science with idle and puerile dissertations or with vicious and incoherent sketches. The abuse of scientific theories cannot, it is true, be always prevented, but it is less probable in positive investigations where the imagination is avowedly subservient to observation

than in metaphysical inquiries which possess no character of stability; and it may be avoided in all important cases by means of precautions which the practical cultivation of science always suggests, and by which the first approximations may be subjected to ulterior rectifications founded upon a wider induction of facts.*

According to this exposition, M. Comte contends for the use of hypotheses in natural philosophy, and of theories in sociology; and that substantially the same thing is meant by both terms is shown by the statement he makes that the facts on which the sociologist theorizes should be attached, at least hypothetically, were it only by a simple provisional hypothesis, to some law or laws. Hypothesis, or theory hypothesized, is then a recognized instrument of scientific research; and it becomes a question under what restrictions or safeguards it may be applied. The employment both of hypotheses and of theories is acknowledged to be liable to abuse, but it is only when treating of the former that the precautions against error are defined. The single rule which M. Comte prescribes is that the hypothesis in any given case shall be susceptible of positive verification, a rule which but for its extreme generality might be considered reasonable since without it the wildest conjectures might be advanced as probable truths and maintained as natural laws. This positive verification is not required to be immediate since it may be more or less remote in point of time, but from the nature of the case always attainable and even inevitable, and when attained the degree of precision belonging to

* *Philosophie Positive*, iv. 412-425.

it must accord with that which corresponding phenomena require. Even with this explanation we might still be at a loss to understand what in M. Comte's view would constitute the required positive verification of a hypothesis, but in further elucidation of the rule he goes on to say that in other words truly philosophical hypotheses must always exhibit the character of simple anticipations of what experiment and reasoning would have been able instantly to disclose, if the circumstances of the problem had been more favourable. A philosophical hypothesis then is to be tested by positive verification, and positive verification is to be effected by experiment and reasoning. This is a nearer approach to distinctness of conception; and to this extent M. Comte's fundamental theory of hypotheses—their necessity, their utility, their verification, and the means by which verification is to be accomplished—is unassailable.

The next step is to understand the practical use which M. Comte proposes to make of his solitary rule, for the rule itself may be just and sound and yet his interpretation may be very questionable and his application of it wholly erroneous. On this point he informs us that all real science at the present day is strictly limited to the analysis of phenomena with a view to the discovery of their effective laws, that is, their constant relations of succession and similitude, and that every hypothesis that transgresses the limits of this positive sphere can result only in generating endless discussions by pretending to pronounce on insoluble questions. The obvious meaning of this is that every legitimate hypothesis must have for its object the discovery of law,

and of law only, and that every other object must be sedulously eschewed as inconsistent with the nature and ends of positive science. If M. Comte had contented himself with saying that the discovery of the laws of phenomena was an object, and a most important object, of philosophical hypotheses, he would probably have found none to oppose such an application of his rule, since to pass by means of verified hypotheses from the observation of isolated facts to the aggregation of such facts into law constitutes a real progress in science. But when he in effect affirms that the discovery of law is the sole legitimate object of all hypotheses whatsoever to the exclusion of all other objects that can be imagined or proposed, we are induced to inquire on what grounds of observation or experiment or reasoning such a limitation is made to rest, and what those other objects are which it is thus intended to exclude. The only ground that is assigned for the limitation is that all sensible persons (*tous les bons esprits*) have arrived at this conclusion. This may be a very sufficient reason for those who have arrived at that conclusion and who with M. Comte belong to the class of sensible persons, but it is not quite convincing to those who have arrived at a different conclusion and who cannot therefore claim to belong to that class. For a principle so broad one expects a reason as comprehensive which would commend itself to the common sense of all men without distinction. He leaves us in no doubt as to those other objects which this limitation is designed to exclude. He says that all positive science and consequently every philosophical hypothesis can have nothing to do with the inmost nature of phenomena, with their cause

whether primary or final, or with their essential mode of production; and he stigmatizes the hypotheses that aim at such unattainable objects as arbitrary suppositions (*des suppositions arbitraires*), overlooking that all hypotheses, even those that contemplate the ascertainment of law, are in the first instance by their very nature and definition arbitrary suppositions. What, however, most forcibly attracts attention is the anti-theological aspect of this forced limitation of the legitimate objects of hypotheses. Let M. Comte by his *fiat* put an end to all inquiry respecting the inmost nature of phenomena, their primary and final causes, and their modes of production, and he will have dealt an effectual blow at theology. Some may think that the world would not suffer greatly from the loss. Certain it is that theology is sometimes unphilosophical and that philosophy is sometimes anti-theological. But is that a reason for extinguishing theology any more than for abrogating philosophy? Why should not a positive philosopher like M. Comte discuss the fundamental theory of hypotheses without allowing his mind to be biassed by an unphilosophical anti-theological prejudice? If all theological hypotheses are essentially unphilosophical, why not trust to prove them so by the faithful and impartial application of his sole rule of verification by means of experiment and reasoning? It is by this test that it is now proposed to try the excluded objects which M. Comte has specified.

The *first* question that arises is whether the rule of positive verification by means of experiment and reasoning, enjoined by M. Comte's fundamental theory of hypotheses and legitimately interpreted and applied,

forbids all inquiry into the inmost nature of phenomena (leur nature intime). M. Comte affirms absolutely and without qualification that it does: the object of the following remarks will be to show in what sense it does, and in what sense it does not, forbid such inquiry. For this purpose it is necessary to call attention to an important distinction which M. Comte, treating of another subject, has with just discrimination signalized, viz. the distinction between precision and certainty. He says that these two qualities are in themselves very different; that a proposition which so far from being certain is demonstrably absurd and false may yet be very precise, as for instance that the sum of the angles of a triangle is equal to three right angles; and that conversely a proposition which is greatly wanting in precision, may yet be very certain, as for instance that every human being will die. This distinction M. Comte employs to vindicate the claims of sciences which present a very unequal degree of precision in no degree affecting their certainty, and it may with propriety be applied to hypotheses distinguished by the same characteristics, that is, possessing equal degrees of certainty and unequal degrees of precision. In every hypothesis, as in every science, what is simply conjectural is only more or less probable and does not constitute its essential province: whatever is positive or susceptible of positive verification, that is, whatever is based upon well-established facts, is certain, whether it relates to the laws of phenomena or to their inmost nature.*

* "Je ne dois point passer à une autre considération sans mettre le lecteur en garde à ce sujet contre une erreur fort grave et qui, bien que très grossière, est encore extrêmement commune. Elle consiste à confondre le degré de précision que comportent nos différentes connaissances avec leur degré de certi-

Recognizing this distinction as applicable not only to science in general but specially to hypotheses, let us with its aid endeavour to test by the rule of positive verification certain hypotheses which profess to pronounce on the inmost nature of phenomena. Of such hypotheses none come so close to our business and bosoms as those which seek to deduce from the actual phenomena definite propositions regarding the inmost nature of our own minds. One hypothesis which constitutes a theoretical basis of the dominant religions of Asia, Brahmanism and Buddhism, teaches that the present phenomena of mind require the belief in its past existence. Another hypothesis which constitutes a theoretical basis of Christianity, the dominant religion of Europe and America, teaches that the present phenomena of mind require the belief in its future existence. The former hypothesis does not exclude the latter, but the latter excludes the former; that is, in Brahmanical and Buddhistic countries a belief in the pre-existence of the soul is usually accompanied by a belief in its future

tude d'où est résulté le préjugé très dangereux que le premier étant évidemment fort inégal, il en doit être ainsi du second. Aussi parle-t-on souvent encore, quoique moins que jadis, de l'inégale certitude des diverses sciences, ce qui tend directement à décourager la culture des sciences les plus difficiles. Il est clair néanmoins que la précision et la certitude sont deux qualités en elles-mêmes fort différentes. Une proposition tout-à-fait absurde peut être extrêmement précise, comme si l'on disait, par exemple, que la somme des angles d'un triangle est égale à trois angles droits; et une proposition très certaine peut ne comporter qu'une précision fort médiocre, comme lorsqu'on affirme, par exemple, que tout homme mourra. Si, d'après l'explication précédent, les diverses sciences doivent nécessairement présenter une précision très inégale, il n'en est nullement ainsi de leur certitude. Chacune peut offrir des résultats aussi certains que ceux de toute autre, pourvu qu'elle sache renfermer ses conclusions dans le degré de précision qui comportent les phénomènes correspondans, condition qui peut n'être pas toujours très facile à remplir. Dans une science quelconque tout ce qui est simplement conjectural n'est que plus ou moins probable et ce n'est pas là ce qui compose son domaine essentiel; tout ce qui est positif, c'est-à-dire, fondé sur des faits bien constatés, est certain: il n'y a pas de distinction à cet égard." Philosophie Positive, i. 102-104.

existence, while in Christian countries a belief in the future existence of the soul is not usually accompanied by a belief in its pre-existence. Again, one hypothesis which in all cultivated ages and nations has constituted a theoretical basis of a philosophical school teaches that the actual phenomena require a belief in the identity of the inmost nature belonging to mind and matter. Another hypothesis which in all ages and nations cultivated and uncultivated has constituted a theoretical basis of another school, teaches that the actual phenomena require a belief in the diversity of the inmost nature belonging to mind and matter. The object now in view is not to pronounce an opinion on the truth or falsehood of the doctrines which these hypotheses express, but on the validity or invalidity of the hypotheses as such. It is not to affirm or to deny the materiality or the immateriality, the pre-existence or the future existence, of the soul, but to try by examples which M. Comte has not adduced the philosophic method and the fundamental theory of hypotheses which he has enunciated. What judgment does the rule of positive verification by means of experiment and reasoning require us to form respecting these hypotheses respectively?

The doctrines that affirm the past and the future existence of individual minds of the human race, viewed not as articles of religious belief but solely as philosophical hypotheses, thus raise two separate questions. The first is whether the ideas they present are precise, clear, determinate; and the second is whether those ideas are certain, positive, susceptible of positive verification. The answer to the first question is that our idea of a supposed state of pre-existence and our idea

of a supposed state of future existence, these two ideas are just as precise as the idea we possess of the present state of existence, the only difference between the three being that of time, time past, time present, and time future ; a difference which does not affect the essential idea of existence or life common to all three. It is true that even our present life is a mystery to us. We cannot define it. We cannot grasp its principle. It escapes both the knife of the anatomist and the analysis of the metaphysician. But notwithstanding this confessed ignorance we have precise ideas of the chief conditions under which a present life is possessed, is maintained, and is brought to a close, and by transferring those conditions to the supposed pre-existent and future states we may give the same degree of precision to our conceptions respecting those states that we already possess respecting the present state of existence. A sufficient degree of precision then is not wanting to the ideas which these hypotheses express. What is the answer to the second question? It is that the ideas which these hypotheses express, while they are sufficiently precise, are wholly wanting in certainty. The certainty of positive verification may be attained by experiment and reasoning ; but what scope is there for experiment on the facts of a pre-existent state of which no one retains any memory, or for reasoning on those of a future state which is wholly shrouded from our view? Such hypotheses by their nature admit of no positive verification. Constituted as we are with our present faculties and capacities no experiment can be made, no reasoning can be framed, that will carry our minds with confidence back into the invisible past or forward into the

invisible future, and that will afford a scientific and philosophic foundation on which to build any assumptions respecting them. On these subjects we are ignorant, and it is the part of wisdom to know and to acknowledge that such are the limits to our feeble and unaided powers. Let it be observed however that these hypotheses are negatived, not on the principle assumed by M. Comte because they relate to the inmost nature of mind, but because they relate to aspects of that nature, its alleged past and future existence, which by the conditions of our being are placed beyond the possibility of positive verification. What philosopher, if he look back, can wisely or safely speculate on the dark abysm of the pre-existent past? If he look forward, on the equally inscrutable mysteries of the future? The former is a vista into which no human gaze has ever penetrated; the latter an "undiscovered country from whose bourn no traveller returns." Such beliefs have been and still are accepted in the world as the products either of traditional superstition or of supernatural revelation, and in either case they are equally excluded from the sphere of positive verification and of philosophical hypotheses.

The doctrine that asserts respectively the identity or diversity of nature belonging to matter and mind, in like manner gives rise to the same questions, the first relating to the precision and the second to the certainty of the ideas expressed. The ideas expressed by the materialistic and spiritualistic hypotheses must be pronounced greatly deficient in precision. In the former case of the hypotheses which teach the past and future existence of man there was found to be no want of pre-

cision, because the difference between past, present, and future existence is only a difference of time, while the subject of the alleged changes is assumed to be the same throughout. In the present case the question is whether that subject is a compound or is only a simple substance; whether for instance extension and thought must be considered as belonging to the same substance material or spiritual, or to different substances material and spiritual. Now, what precision can our ideas have either of their identity or diversity when, if the same, we know nothing of the inmost nature of that one substance; or, if different, of the inmost nature of those two substances in which such contrasted qualities unite? But, although our ideas of the identity or diversity of matter and mind are wanting in precision, are they without certainty? Not necessarily, for as we have seen that our ideas may be precise and yet uncertain, so they may be sufficiently certain and yet deficient in precision. Not in fact, for what can be more within the scope of our faculties, what more susceptible of positive verification, what more subject to experiment and reasoning, than the question of the simple or compound nature of our own being, constituted as we feel and experience and know it to be? In order to this conclusion it is not necessary to affirm that the inmost nature of matter is different from, or that it is identical with, that of mind. All that is necessary to be affirmed, and all that is now affirmed, is that both hypotheses, although relating to the inmost nature of phenomena, are strictly legitimate; that both contemplate what is plainly accessible to experiment and reasoning; that both are by these means susceptible of positive verifica-

tion or falsification ; and that neither therefore simply considered as an hypothesis can be justly pronounced arbitrary, insoluble, chimerical, anti-scientific, or obstructive. To the materialist the spiritualistic hypothesis, to the spiritualist the materialistic hypothesis, must of course appear unphilosophical. But while either hypothesis remains in the estimation of the inquirer a hypothesis and a hypothesis only, it is legitimate and verifiable, because all the phenomena are undeniably within the reach of the means of verification.

In opposition to this conclusion M. Comte proscribes all such hypotheses as involving a question insoluble, flowing from metaphysical and theological modes of thought, and not belonging to the province of positive philosophy which formally professes an absolute ignorance of the inmost nature of all bodies whatsoever. It is to be supposed then that he carefully abstains from assuming the truth of either of these hostile hypotheses that respectively affirm the identity and diversity of the inmost nature of matter and mind. On the contrary his whole philosophy is constructed on the assumption of the truth of the materialistic hypothesis. Thus, when he is establishing that the study of physiological phenomena ought to follow, not precede, that of inorganic bodies, he says that it is by no means indispensable to consider unorganized and living bodies as being of a nature essentially different in order to recognize the necessity of studying them separately ; that is, he considers them as being of a nature essentially the same and yet he recognizes the necessity of their separate investigation. Again, when he is assailing the imaginary fluids and ethers to which the phenomena of

heat, of light, of electricity, and of magnetism are referred, he says that all these pretended explanations are at bottom scarcely more scientific than the metaphysical explanation of the human phenomena by means of the mysterious action of the soul upon the body, and that in the one case as well as in the other, far from removing any difficulty, we only by this means in fact artificially produce a great number of new ones. In the same spirit he considers that the fundamental unity of the animal organism is the necessary result of an exact harmony between the different principal functions, and that the notion of the *me*, of the individual personality, is that of the universal consensus of the totality of the organism; a doctrine which negatives the separate existence of mind, that is, its existence except as the result of organization, and consequently affirms the identity of the inmost nature of mind and matter.*

* "Il ne s'agit pas ici d'examiner si les deux classes de corps" (c'est-à-dire, les corps bruts et les corps vivants), "sont ou ne sont pas de la même *nature*, question insoluble qu'on agite encore beaucoup trop de nos jours, par un reste d'influence des habitudes théologiques et métaphysiques; une telle question n'est pas du domaine de la philosophie positive, qui fait formellement profession d'ignorer absolument la *nature* intime d'un corps quelconque. Mais il n'est nullement indispensable de considérer les corps bruts et les corps vivants comme étant d'une nature essentiellement différente, pour reconnaître la nécessité de la séparation de leurs études."—"Toutes ces prétendues explications" (c'est-à-dire, les explications des phénomènes de la chaleur, de la lumière, de l'électricité, et du magnétisme par les fluides et les éthers imaginaires auxquels on les rapporte) "ne sont pas, au fond, guère plus scientifiques que l'explication métaphysique des phénomènes humains, par l'action mystérieuse de l'âme sur le corps; dans l'un et l'autre cas, en effet, loin d'aplanir réellement aucune difficulté, on en fait naître artificiellement en grand nombre de nouvelles."—"Le beau sujet" (c'est-à-dire, l'étude des synergies) "en lui attribuant toute son extension philosophique, conduit sans doute directement à la théorie la plus capitale que puisse finalement présenter la physiologie positive celle de l'unité fondamentale de l'organisme animal, résultat nécessaire d'une exacte harmonie entre les diverses fonctions principales, du moins si l'on combine d'une manière convenable avec cette notion d'équilibre mutuel celle du degré normal de chaque faculté élémentaire."—"C'est du sentiment continu d'une telle harmonie, fréquemment troublée dans les maladies, que résulte

It does not belong to this place to dispute the truth of such an hypothesis, but to dispute M. Comte's right as a consistent reasoner to frame any hypothesis, to construct any theory, to teach any doctrine whatsoever, respecting the inmost nature of mind and matter. A hypothesis that affirms the identity of matter and mind professes to know just as much of their inmost nature as a hypothesis that affirms their diversity. In truth however M. Comte is not to be censured for assuming some hypothesis, however inconsistently, on this subject. No system of philosophy can be formed which shall not be essentially modified by the belief in the different or identical nature of matter and of mind. How is it possible to investigate their laws without assuming that the nature of both is either identical or different? Some hypothesis therefore on this question was indispensable to him. His mistake appears to be twofold. First, we find him teaching that the fundamental theory of hypotheses requires us to reject all those that relate to the inmost nature of phenomena, which is itself an arbitrary hypothesis; and next we find his whole philosophy penetrated with an hypothesis respecting the inmost nature of matter and mind which even if, as he gratuitously assumes, it were true, which it is not, would still be in violation of his own rule.

The *second* question that arises is whether M. Comte's rule of positive verification legitimately forbids all hy-

nécessairement la notion très abstraite et très indirecte du *moi*, c'est-à-dire, du consensus universel de l'ensemble de l'organisme. Les psychologues ont vainement voulu faire de cette idée, ou plutôt de ce sentiment, un attribut exclusif de l'humanité: il est évidemment la suite nécessaire de toute *vie* animale proprement dite; et par conséquent il appartient tout aussi bien aux animaux, quoiqu'ils n'en puissent disserter: sans doute un chat ou tout autre vertébré, sans savoir dire *je*, ne se prend pas habituellement pour un autre que lui-même." Philosophie Positive, i. 89; ii. 443; iii. 757, 759.

potheses respecting the primary and final causes of phenomena. His interpretation of the rule absolutely negatives all such hypotheses: it is here held on the contrary that a just application of it permits them. It would however be a misapprehension of M. Comte's meaning and a misrepresentation of his philosophical system to suppose or to say that he objects to all investigation into causes. His objection lies not against investigation into causation absolutely, but against investigation into the primary and final causes of effects (*les causes premières et finales de tous les effets*. Phil. Pos. i. 4); the cause of phenomena whether primary or final (*leur cause ou première ou finale*, ii. 436); and consequently against all hypotheses or theories which aim at the discovery or affirm the existence of such causes. This requires to be noted both in justice to M. Comte and to the argument; in justice to M. Comte for none knows better than he that all science is resolved into the discovery of the causes of effects and of the effects of causes; and in justice to the argument, for it suggests the inquiry, if all other causes may be investigated, why we should stop short of the first or of the last cause of any given phenomenon, of its primary source or of its determinate end. This is an unphilosophical limitation of the objects of scientific hypotheses for two reasons; first, because a primary cause is not more removed from experiment and reasoning and consequently from positive verification than certain secondary causes; and secondly, because final causes are accessible to experiment and reasoning and consequently to positive verification as much as any secondary causes whatsoever.

In support and illustration of the first reason, let the phenomenon to be explained be the existing condition of the earth's crust exhibiting the effects of changes that have occurred in successive and protracted cosmical eras; and let the agencies that produced those effects be assumed to have been water or fire or both water and fire. How can we verify to ourselves that the supposed agencies were the actual agencies that produced the given effects? Thousands, tens of thousands, perhaps millions, of years have elapsed since, according to geological theory, they began to operate; but even at this distance of time we conclude that such were the actual agencies because we see analogous effects although on a smaller scale produced by such causes at the present day. Or, let the problem to be solved be the origin of our planetary system, and let the explanation adopted be the theory of Laplace which represents the sun under the operation of mechanical laws as giving off at different distances and at different periods bodies of vaporous matter which condensed by cooling and became planets. This speculation carries us deep into the abysses of space as well as back into those of time, and it has received the general assent of astronomers because, although immeasurably removed from our observation, it is founded on the known laws of known substances. Mr. J. S. Mill, who considers that M. Comte of all philosophers has approached the nearest to a sound view of the important subject of hypothetical reasoning, holds that both theories, the geological and the astronomical, are strictly inductive,* and M. Comte himself accepts and supports the astronomical theory.† In both cases the

* *Logic*, ii. 17, 25, 27.

† *Positive Philosophy*, ii. 378-383.

actual causes are by space or time or both rendered utterly inaccessible to observation and experiment. It is only by reasoning from analogy that we conclude that such causes produced the effects assigned to them, and yet there is no doubt entertained as to the scientific character of that reasoning and the soundness of the conclusion built upon it.

Apply this to the question under consideration. The reasoning is precisely of the same kind when a primary cause is affirmed and an intelligent will ascribed to that cause. From its nature that intelligent will, that primary cause, is not the object of observation; but we and our fellow-men, being ourselves possessed of an intelligent will and knowing from experience the effects which such a will can and does produce, infer that the analogous effects which we witness in the order of the universe, although on a much larger scale, must have proceeded from a supreme will operating as a primary cause. The reasoning is as strictly inductive in the theistic as in the geological and astronomical theories. The verification is complete in each. The conclusion can no more be called in question in the one case than in the other. In the language of Mr. Mill applied by him to the geological and astronomical theories and applied here to the theistic theory: "There is in this theory no unknown substance introduced upon supposition, nor any unknown property or law ascribed to a known substance." It is "the strictly legitimate operation of inferring from an observed effect the existence in time past of a cause similar to that by which we know it to be produced in all cases in which we have actual experience of its origin." And yet this reasoning

which is held by Mr. Mill to be strictly inductive when applied to geology and astronomy, and by M. Comte when applied to astronomy, is considered by the latter wholly untenable when applied to theism and employed in proof of a primary cause.

In support and illustration of the second reason, viz. that final causes are accessible to experiment and reasoning and consequently to positive verification as much as any secondary causes whatsoever, it is necessary only briefly to recall what has already been said respecting final causes. Their proof consists, as has been shown, of three steps or stages; first, the existence of means adapted to an end; second, the accomplishment of the end by the appropriate means; and third, the inference of design from the colligation of the two. The first and second are matters of observation and M. Comte practically acknowledges their truth and validity in his doctrine respecting the constant relation between organs and functions; and the third is a matter of reasoning respecting which every thinker must judge for himself. Thus by observation and reasoning jointly the theory of final causes is completely brought within the sphere of positive verification, according to the strictest terms of M. Comte's formulary. His attempt to quash all investigation into primary and final causes becomes wholly abortive. The spirit and principle and even the very terms of his fundamental theory of hypotheses requiring susceptibility of positive verification as their sole unfailing test, completely justify such inquiries.

But does M. Comte in reality abstain from all belief in primary and final causes? It has just been said and was before proved that the bases of the doctrine of final

causes and those of M. Comte's doctrine of organs and functions are identical, the only difference being that the believer in final causes admits the premisses and draws from them the logical conclusion, while M. Comte accepts the same premisses but refuses to draw that conclusion or draws the opposite conclusion. According to both doctrines the facts and the mutual relations of those facts are the same, but the inference from the facts and their relations is different. The difference between the doctrines is not so great as to entitle M. Comte to dogmatize over his opponents. The theist rather may claim that M. Comte has made a near approach to the very doctrine which he repudiates and which a calmer and more deliberate judgment might lead him wholly to adopt. He is virtually also a believer in a primary cause. For what is law to him but a primary cause, not indeed the primary cause of theists, but still a primary cause, since according to his theory it is the first principle from which all things proceed, by which all things are governed, into which all things are resolved. The essential difference between the primary cause of the theist and the primary cause of M. Comte is that the former is intelligent and the latter unintelligent; that the former wills appropriate means to accomplish wise and beneficent ends, and that the latter without volition employs the same means to accomplish the same ends. Which is the more satisfactory solution of the mysteries of nature, of life, and of society, must be left to individual judgment. But, however the question may be determined, if we weigh not words but the ideas which they express, the one is as much a primary cause to M. Comte as the other is to the theist. This shows what M. Comte really means, perhaps unconsciously,

when he propounds a fundamental theory of hypotheses and prescribes a rule of positive verification which he interprets as opposed to the investigation of primary and final causes. He is not opposed to the investigation of a primary cause, for he teaches a primary cause of his own, but to the investigation of a primary cause that is intelligent as distinguished from one that is unintelligent. He is not opposed to the investigation of final causes, for he teaches final causes of his own, organs constantly related to functions and functions to organs, but to the investigation of final causes that are determined by a presiding will.

This rabid hostility to everything theological even in name appears with still greater prominence when we consider what it is that M. Comte really and practically requires when he demands that the fundamental theory of hypotheses shall be understood as interdicting all inquiry into primary and final causes. A hypothesis, as we have seen, is the provisional supposition of an alleged explanation of certain given phenomena for the purpose of testing by cautious observation, experiment, and reasoning whether the alleged explanation is or is not sufficient. If the hypothesis stands the test of positive verification, it is accepted as a truth, and if it does not stand that test it must be rejected as an error; but before it is either accepted as a truth or rejected as an error, it is indispensable that the test of positive verification should be applied. There are two opposite and equally irrational prejudices here to be encountered. Either the advocate of the hypothesis is so blindly confident of its truth that in his view it transcends all scientific verification, or the opponent of the hypothesis is so blindly confident of its falsehood that to

him it is beneath philosophical notice; and in both cases the test of positive verification is ignorantly repelled. In the question of primary and final causes, what is the state of the case as between M. Comte who denies and the theist who affirms them? The theist, placing his belief in primary and final causes on the very low ground of a mere hypothesis, courts the application of M. Comte's sole rule of positive verification, fully convinced that it will triumphantly stand the severest form of that test. M. Comte on the contrary tells us that positive science (*études réelles*) can take no account (*ne peuvent nullement concerner*) of primary and final causes, teaches a fundamental theory of hypotheses which *à priori* ignores their possibility, and thus virtually refuses the application to them of his own sole test of positive verification. On which side are found philosophic pride, dogmatic intolerance, and contented ignorance? M. Comte not only denies primary and final causes, that is, he not only denies a God and a Providence and a purpose in nature and life and society, but he denies even the right of hypothesizing such a belief, that is, he denies even the right of provisionally supposing its truth for the purpose of ascertaining by positive verification whether it is true or false. He not only denies theism but he would, if he could, place it beyond the pale of rational discussion. The modesty of this sentiment is equal to its philosophy. The moral and intellectual qualities of mind which it exhibits are in fit accord. If primary and final causes will not stand the test of positive verification, why refuse to apply it? If they do stand that test, why reject such causes?

The *third* question which M. Comte's theory of hypo-

theses raises is whether, properly understood, it should be considered as negating all hypotheses relating to the modes of production of phenomena. He condemns all such hypotheses in the most comprehensive and emphatic terms; but it may be doubted whether this sweeping sentence is just, at least on the grounds on which he has placed it. Thus he says (ii. 438) that, since the establishment of the fundamental law of gravitation, geometricians and astronomers have definitively abandoned the assumption of chimerical fluids (*des fluides chimériques*) in order to explain the general mode of production of the celestial movements. And what, he asks (ii. 439), can be the scientific utility of those fantastical conceptions which still play so important a part in physics regarding the imaginary fluids and ethers to which are referred the phenomena of heat, of light, of electricity, and of magnetism? How can those (ii. 440) who deride the elementary spirits of Paracelsus (*les esprits élémentaires de Paracelse*); who refuse to admit angels and genii (*les anges et les génies*); and who repel with disdain the idea of the sonorous fluid (*l'idée du fluide sonore*) proposed by Lamarck—how except by the omnipotence of custom can they firmly believe in the existence of caloric, of luminous ether, or of electric fluids? It is no excuse to profess, as physicists do, that these hypotheses are employed (ii. 441) solely as indispensable means to facilitate the conception and combination of phenomena, since their tendency and effect is inextricably to interweave imaginary notions with real ideas. In short, any attempt whatsoever (ii. 443), even one purely fictitious, to conceive the mode of production of phenomena, is necessa-

rily illusory and directly opposed to the genuine scientific spirit. The origin of such hypotheses is traced (ii. 446, 7) to the infancy of the human mind which originally inspired the conception of gods, changed next into souls, and finally transformed into imaginary fluids. What in fact is heat conceived as existing apart from the hot body; light independent of the luminous body; electricity separated from the electric body? Pure entities quite as much as thought regarded as a being independent of the thinking body, or digestion isolated from the digesting body.

If, as is thus maintained, modes of production may not be the objects of scientific hypotheses, this amounts to a prohibition of all investigation whatsoever into modes of production. But science is daily conversant with questions relating to modes of production; modes of production of metallic ores, of coal, of the soil that constitutes the surface of the earth, of the successive formations that underlie the surface, and of volcanoes and earthquakes; modes of production from that of the humblest plant or animal which the earth bears to that of a world or a system of worlds. M. Comte has himself either formed or countenanced hypotheses respecting the mode of production of the asteroids and of the planetary system; and respecting the mode of destruction of the existing solar system which at an indefinitely distant period he anticipates, and of its rehabilitation which at a subsequent period he no less confidently predicts. However unqualified therefore his language in one place, it must be understood with the qualification which his own language supplies in another, viz. that every hypothesis must be susceptible of positive verification, and that hypotheses respecting

modes of production when susceptible of such verification are equally admissible with any other description of hypothesis. What in truth is the fundamental objection to the elementary spirits of Paracelsus, to the angels and genii of popular belief, to the sonorous fluid of Lamarck, and to the chimerical fluids of geometricians and astronomers? What the fundamental objection to the imaginary fluids and ethers to which the phenomena of heat, of light, of electricity, and of magnetism are referred? The objection is not that these hypotheses profess to explain modes of production, but that they profess to explain them in a way not susceptible of positive verification, that is, by the assumption of unknown substances of the existence of which we have not, and perhaps never can have, any evidence. That such substances are chimerical, fictitious, imaginary, is a sufficient condemnation even of their hypothetical employment without denouncing them as explanatory of modes of production, a form of condemnation which would unjustly include hypotheses that recognize only the known qualities of known substances and that are consequently susceptible of the strictest positive verification.

M. Comte attempts to identify thought with the thinking body just as digestion is impossible except as belonging to the digesting body. If the analogy of thought to digestion can be established we must accept it with all its consequences, and the belief in the separate and independent existence of mind must be abandoned along with the exploded hypotheses of elementary spirits, fantastical genii, chimerical fluids, and imaginary ethers. But the analogy thus gratuitously assumed is remote and forced and such a question is not to be determined

by innuendo. There are two apparently quite distinct classes of phenomena to be explained, which we may represent to ourselves by the terms, thought and extension. No two classes of phenomena can be conceived more dissimilar. Would it be philosophical or scientific, would it promote clearness of arrangement, of expression, and of idea to attach, even hypothetically, such disparate phenomena to one and the same substance? M. Comte answers this question in the affirmative, others in the negative. He sees no inconsistency, no incompatibility, in his conclusion: they see in that conclusion a doctrine directly tending to introduce confusion into our ideas, to retard the progress of society, and to degrade man from his true dignity. How can the sole rule of positive verification be applied to such opposite hypotheses except by assigning different substances to different classes of phenomena or by conceiving different classes of phenomena as belonging to different substances, although we know, and probably can know, nothing of the nature of those substances beyond the ascertained fact of the diversity of phenomena which they exhibit?

It thus appears that while M. Comte's fundamental theory of hypotheses is sound and his sole rule of positive verification is just, yet that his mode of understanding his own theory and applying his own rule to the exclusion of all investigation into the inmost nature of things, into primary and final causes, and into modes of production, is untenable on the ground both of the unphilosophical and anti-theological prejudice from which such restrictions proceed and of the self-contradictions as well as contradictions to fact and reasoning which they involve.

SECTION II.

Hypothesis of the Perpetuity of Matter.

AFTER having considered M. Comte's fundamental theory of hypotheses, his sole rule of positive verification, and the arbitrary limitations which in neglect or contravention of that rule he would impose on the formation of hypotheses, it may be proper to attempt an estimate of some of the principal hypotheses which he has himself advanced, and to subject them to the criterion which he has himself prescribed. Of those hypotheses the first that attracts attention is that by which he asserts as a fundamental principle the necessarily indefinite perpetuity of all matter. This hypothesis he proposes for the purpose of superseding the alleged theological ideas of creation and destruction. Thus, treating of astronomy, he rejects the idea of creation as incomprehensible (*insaisissable*) and holds that the successive transformations of the heavenly bodies are the only legitimate objects of scientific research. And again, treating of chemistry, he contends that the decomposition of air and water and the analysis of vegetable and animal substances and of alkalis and

earths were requisite irrefutably to establish the fundamental principle of the necessarily indefinite perpetuity of all matter and to lead to the substitution of the positive notions of decomposition and recomposition for the theological ideas of destruction and creation.*

The proposal then is in astronomy to substitute for the doctrine of creation that of transformation or change of form, and in chemistry for the doctrines of destruction and creation those of decomposition and recomposition, and to base this substitution upon the principle or hypothesis of the indefinite perpetuity of matter. Matter, it is assumed, is indefinitely perpetual. There has never therefore been any creation, and there never will be any destruction. A change of form in large bodies, or in smaller bodies a change in the relative distribution of their constituent particles, is all the change of which they are susceptible. It is taken for granted that creation and destruction mean something different from this and we are thus, before proceeding farther, obliged to inquire what ideas these terms in the theological sense are employed to express.

Popularly, by creation is meant the making of some-

* "Je dois maintenant procéder à l'examen général de ce qui comporte un certain caractère de positivité dans les hypothèses cosmogoniques. Il serait sans doute superflu d'établir spécialement à cet égard ce préliminaire indispensable que toute idée de *création* proprement dite doit être ici radicalement écartée, comme étant par sa nature entièrement insaisissable, et que la seule recherche raisonnable, si elle est réellement accessible, doit concerner uniquement les transformations successives du ciel, en se bornant même, au moins d'abord, à celle qui a pu produire immédiatement son état actuel." Philosophie Positive, ii. 363.—"Il a fallu avant tout la décomposition de l'air et de l'eau, et ensuite l'analyse élémentaire des substances végétales et animales, et peut-être même le complément un peu plus tardif d'un tel ensemble par l'analyse des alcalis proprement dits et des terres, pour établir d'une manière entièrement irrecusable le principe fondamental de la perpétuité nécessairement indéfinie de toute matière, et pour tendre à remplacer irrevocablement dans l'universalité des esprits les idées théologiques de destruction et de création par les notions positives de décomposition et récomposition." iii. 69.

thing out of nothing, and conversely by destruction the unmaking of something or the reducing of something to nothing, and the opposition between these ideas and the positive notions of transformation and of decomposition and recomposition is sufficiently obvious. If M. Comte were assailing vulgar superstitions he would have a right to establish this contrast and to infer whatever conclusions it may be found to support. But popular ideas, whether they are right or wrong, may not be any more theological than they are philosophical, and divines may not be more answerable for them than sages. In the present case destruction in the sense of annihilation is scarcely more an accepted theological idea than it is a philosophical one, for although some divines have rashly supposed that extinction of being may be the possible future doom of the wicked, yet comparatively few have indulged in such vain speculations, and theology as well as philosophy recognizes what science teaches that nothing is destroyed, that nothing ceases to exist, although all things are undergoing changes of mode and form.

The converse term, creation, is more generally understood not only popularly but theologically also in the sense of making something out of nothing, of calling something into existence which had not existed before. But this sense is not necessary to theism, for the conception of a supreme will, of a moral ruler of the universe, is in no degree connected with or dependent upon such an assumption. In no system of religion are the ideas of creation and destruction made more prominent than in that of modern Hinduism, and even in that system those terms are used in the sense of trans-

formations; while among Christian geologists and metaphysicians there appears a tendency to employ the terms in the same sense. Thus the late Mr. Hugh Miller speaks of a particular tree as having been very common in Scotland "some three creations ago," a phrase which although not necessarily limited to the meaning of successive transformations is most easily understood in that sense; and the late Sir William Hamilton argues against the possibility of our being able to construe it in thought that there can be an atom absolutely added to, or absolutely taken away from, existence in general, from which it follows that the common ideas attached to the words creation and destruction are untenable.* It is grati-

* I have lost, if I ever possessed, the reference to Mr. Miller's work containing the above-cited phrase. The following is the passage in which it occurs as I have it among my notes. He says that the Eigg Pine (*Pinites Eiggensis*), "a pine alike different from those of the earlier carboniferous period and those which exist contemporary with ourselves was, some *three creations* ago, an exceedingly common tree in the country now called Scotland." — [Since this was written I have seen Mr. Miller's *Cruise of the Betsy, or a Summer Ramble among the Hebrides*, edited by Mr. Symonds, where the passage in question is found. See p. 39. In the phrase "some *three creations* ago" the words *italicized* are so printed in the *Cruise*.]—Sir William Hamilton, expounding his doctrine of causality, says:—"When aware of a new appearance, we are *unable* to conceive that therein has originated any new existence and are therefore constrained to think that what now appears to us under a new form had previously an existence under others. These *others* (for they are always plural) are called its cause; and a cause (or more properly causes) we cannot but suppose; for a cause is simply every thing without which the effect would not result, and, all such concurring, the effect cannot but result. We are utterly unable to construe it in thought as possible that the complement of existence has been either increased or diminished. We cannot conceive either on the one hand nothing becoming something, or on the other something becoming nothing. When God is said to create the universe out of nothing we think this by supposing that he evolves the universe out of himself; and in like manner we conceive annihilation only by conceiving the creator to withdraw his creation from actuality into power.

'Nil posse creari

De Nihilo, neque quod genitu 'st ad Nil revocari;'

—'Gigni

De Nihilo Nihil, in Nihilum Nil posse reverti.'

—these lines of Lucretius and Persius enounce a physical axiom of antiquity, which when interpreted by the doctrine of the conditioned is itself at once recalled to harmony with revealed truth, and expressing in its purest form the conditions of human thought, expresses also implicitly the whole intellectual

tous therefore to assume, as M. Comte does, that the positive notions of transformation and of decomposition and recomposition are disproofs of theism, as being disproofs of the theological ideas of creation and destruction.

M. Comte, not content with denying the popular ideas of creation and destruction and affirming the positive notions of recomposition and decomposition, builds these positive conceptions on the hypothesis of the necessarily indefinite perpetuity of all matter (*la perpétuité nécessairement indéfinie de toute matière*)—a hypothesis which we are now prepared to characterize. It includes the following propositions : *first*, that matter exists; *second*, that it has a perpetuity of existence; *third*, that the perpetuity of matter is indefinite; and *fourth*, that that perpetuity is necessarily indefinite.

phenomenon of causality.”—“We are unable to construe it in thought that there can be an atom absolutely added to, or absolutely taken away from, existence in general. Let us make the experiment. Let us form to ourselves a concept of the universe. Now we are unable to think that the quantity of existence of which the universe is the conceived sum, can be either amplified or diminished. We are able to conceive indeed the creation of a world; this indeed as easily as the creation of an atom. But what is our thought of creation? It is not a thought of the mere springing of nothing into something. On the contrary, creation is conceived, and is by us conceivable, only as the evolution of existence from possibility into actuality by the fiat of the deity. Let us place ourselves in imagination at its very crisis. Now can we construe it to thought that the moment after the universe flashed into material reality, into manifested being, there was a larger complement of existence in the universe and its author together than the moment before there subsisted in the deity alone? This we are unable to imagine. And what is true of our concept of creation holds of our concept of annihilation. We can think no real annihilation—no absolute sinking of something into nothing. But as creation is cogitable by us only as a putting forth of divine power, so is annihilation by us only conceivable as a withdrawal of that same power. All that is now *actually* existent in the universe, this we think and must think as having, prior to creation, *virtually* existed in the creator; and in imagining the universe to be annihilated we can only conceive this as the retraction by the deity of an overt energy into latent power. In short it is impossible for the human mind to think what it thinks existent, lapsing into non-existence either in time past or in time future.” *Discussions on Philosophy and Literature*, pp. 585, 592.

Each of these propositions suggests separate considerations that aid in determining the value of this hypothesis.

1. What does M. Comte mean when he affirms the existence of matter? Does he mean a substance in which the qualities of matter inhere? Or does he mean those qualities themselves? If the former, then he knows something or at least affirms something regarding the inmost nature of matter. He affirms its existence, its perpetuity, the indefiniteness of that perpetuity, and the necessity of that indefiniteness. And yet, as we have seen, the investigation of the inmost nature of things is according to his theory no part of a sound hypothesis, the knowledge of their inmost nature no part of positive science. 2. If the latter, that is, if by matter he means the phenomenal qualities of matter, which is more in accord with his philosophy than the preceding alternative, then the perpetuity of matter which he affirms in the second proposition means the perpetuity of the qualities of matter. But in this sense matter is not perpetual. The qualities of matter are ever changing. According to his own doctrine transformation, decomposition and recomposition, are always going on. It is unimportant which horn of this dilemma M. Comte would accept for either is fatal, the former to his theory of hypotheses, the latter to this particular hypothesis. 3. Again, in the third proposition what does M. Comte mean by the indefiniteness of that perpetuity assigned to matter? Indefinite perpetuity is a relative and therefore theistic conception of duration, intermediate between the inconceivable affirmation of the infinite progress of time and the inconceivable negation of its infinite progress, and which being relative

and therefore conceivable, according to the refined and elevated speculation of Sir William Hamilton, "inspires with a belief in the existence of something unconditioned beyond the sphere of all comprehensible reality."* Thus M. Comte, in his hypothesis respecting the perpetuity of matter, unwittingly embodies both theistic language and a theistic conception. 4. Finally, what is meant by the necessary indefiniteness ascribed in the fourth proposition to the perpetuity of matter? An attempt to attach a distinct conception to this phraseology results in a sense of incongruity and conflict. What is indefinite, being relative, cannot be necessary in the philosophical sense of that word; and what is necessary in that sense, being non-relative, cannot be indefinite. To affirm that the perpetuity of all matter is necessarily indefinite seems the same thing as to affirm that it is unconditionally conditioned, infinitely finite, or absolutely relative, that is, it is to affirm a contradiction in terms. If the perpetuity of matter is indefinite, then it is so, and is pronounced to be so, only in relation to us and to our apprehensions; and if that indefiniteness is necessary, then that necessity exists, and is pronounced to exist, independent of us and of

* "The conditioned is the mean between two extremes, two inconditionates, exclusive of each other, neither of which *can be conceived as possible*, but of which, on the principle of contradiction and excluded middle, one *must be admitted as necessary*. On this opinion therefore reason is shown to be weak but not deceitful. The mind is not represented as conceiving two propositions subversive of each other as equally possible; but only as unable to understand as possible either of two extremes, one of which however, on the ground of their mutual repugnance, it is compelled to recognize as true. We are thus taught the salutary lesson that the capacity of thought is not to be constituted into the measure of existence, and are warned from recognizing the domain of our knowledge as necessarily co-extensive with the horizon of our faith. And by a wonderful revelation we are thus in the very consciousness of our inability to conceive aught above the relative and finite inspired with a belief in the existence of something unconditioned beyond the sphere of all comprehensible reality." *Discussions on Philosophy and Literature*, pp. 14, 15.

our apprehensions. If the perpetuity of matter is indefinite, then that indefiniteness, being relative to us, may be established by positive verification; but if that indefiniteness is necessary, how can that necessity, being independent of us, be established by positive verification?

On these grounds it is held that M. Comte has not only failed to establish his hypothesis of the necessarily indefinite perpetuity of matter which indeed he has enunciated summarily with scarcely any attempt at proof; but also that in its bare enunciation he has run counter to his own theory of hypotheses and to his own rule of positive verification. To escape from the incomprehensible popular ideas of creation and destruction for which rational theism is as little responsible as sound philosophy, he propounds the positive notions of transformation and of decomposition and recomposition which philosophy and theism may equally accept, and bases those positive notions upon a hypothesis, peculiarly his own, which philosophy and theism must equally disclaim. Is there any gain either to the one or to the other by theorizing, hypothesizing, speculating on such subjects at all? The duration of matter—the process of creation—are not these questions placed beyond the reach of our puny faculties? Is it not—I do not say presumption, for it is not presumptuous to think whatever is thinkable—is it not a waste of time, a misdirection of intellectual power, and a defect of moral discipline, to attempt to think that which, even if thinkable, is unverifiable? If M. Comte has erred in one direction in framing a fallacious and contradictory hypothesis respecting the perpetuity of matter, has not Sir William

Hamilton erred in another direction by placing himself even in imagination at the very crisis of creation and seeking to establish an equation between the Deity before the creation and the Deity *plus* the universe after creation? The caution which philosophy dictates forbids the unfounded hypothesis of the one, the veneration which theism inspires recoils from the rash imaginings of the other.

If now we turn from this alleged fundamental principle, considered in itself, of the necessarily indefinite perpetuity of all matter, to the scanty proofs by which it is supported, it is difficult to discover any connection between the premisses and the conclusion. The theological ideas of creation and destruction are held to be incomprehensible and are therefore rejected, and in their place it is proposed to substitute the positive notions of recomposition and decomposition, and these notions are assumed to rest upon and to prove the fundamental principle of the necessarily indefinite perpetuity of all matter. For the establishment of that fundamental principle it was indispensably necessary (il a fallu avant tout) that air and water should be decomposed and that vegetable and animal substances, alkalis and earths, should be analyzed, and this decomposition and analysis are the sole proofs advanced in its support. Where is the connecting link between the antecedent and the consequent? It is not apparent to the reader. It has not been shown by the writer. It does not exist in fact. It is tacitly implied that there is an irreconcilable incompatibility between the theological ideas of creation and destruction and the positive notions of recomposition and decomposition, and that there is a perfect congruity

between these positive notions and the fundamental principle of the necessarily indefinite perpetuity of matter. But these are gratuitous assumptions. Assuming the alleged theological ideas of creation and destruction, it is just as easy to comprehend the creation and destruction of the component elements of air and water, of vegetable and animal substances, of alkalis and earths, as it is to comprehend the creation and destruction of those concrete bodies themselves; and assuming the fundamental principle of the necessarily indefinite perpetuity of matter, it is just as difficult to explain and defend the necessarily indefinite perpetuity of the elements as it is to explain and defend the necessarily indefinite perpetuity of the concrete bodies. The discoveries of chemistry do not make creation and destruction less, or the perpetuity of matter more, intelligible than they would be if air and water had not been decomposed, earths and alkalis analyzed. In literal fact, we have here a philosophic occidental repetition of the popular oriental superstition which only removes a difficulty to a greater distance without explaining it. The earth rests on an elephant and the elephant on a tortoise, but what the tortoise rests on, nobody knows. Even so with M. Comte and his fundamental principle. Creation and destruction are incomprehensible, even the necessarily indefinite perpetuity of concrete bodies is untenable, but the necessarily indefinite perpetuity of the elements of those bodies is a fundamental principle. What is the foundation of that principle, what makes it comprehensible and tenable, he has not told us.

The truth would seem to be that, having acquired an insuperable repugnance to the common ideas of creation

and destruction on account of their supposed theological origin and character, and being not wholly satisfied with the positive notions which he himself suggested as substitutes for them, whether of transformations on a large scale or of elementary decomposition and recomposition, M. Comte forgot for a moment his settled antipathy to metaphysics, second only to that against theology, and put forth the abstract hypothesis, not of the eternity of matter which would have been common-place, but of its necessarily indefinite perpetuity. Now is this hypothesis consistent with the conditions and rules which his method of philosophizing and his fundamental theory of hypotheses peremptorily prescribe to others? Does it admit of positive verification? Does it present the character of a simple anticipation of what experiment and reasoning would teach under more favourable circumstances? Has it exclusive relation to the laws of phenomena, and not to their inmost nature, their primary or final cause, or their mode of production? These are M. Comte's own criteria of philosophical hypotheses which he applies for the extinction of every real or imaginary theological idea such as the supposition of a primary cause or that of creation out of nothing. Has he conformed to his own theory, obeyed his own rule? Has he kept within the boundaries which he has himself marked out, and avoided the speculations which as vague, fruitless, and hurtful he has himself condemned? The answer must be in the negative. His hypothesis of the necessarily indefinite perpetuity of matter is not susceptible of positive verification. No circumstances can ever exist that will permit experiment and reasoning to establish it as a simple anticipation. It does not pre-

tend to relate to any of the laws of phenomena. It does profess to speculate, in one breath, on matter as contingent, in another as necessary ; according to one interpretation, on the inmost nature of matter, and according to another, on the changeableness of the constant and the constancy of the changeable ; and according to any just interpretation it virtually makes matter the sole cause of all phenomena. It fulfils then none of the conditions which according to M. Comte's own showing are requisite to the validity of a hypothesis and without which every hypothesis must tend to obstruct the development of science.

It is a matter of small importance in itself to convict him of violating the method and rule which he has himself laid down for framing and testing a philosophical hypothesis, since every one is liable to the mistake of a hasty generalization ; but it becomes more important and more obligatory in the present instance when it is borne in mind that that method and that rule are persistently directed to negative every thing that wears the aspect of a theistic hypothesis against which in every form he wages an unwearied warfare. The believer in law enjoins on his opponents a method and rule which he does not himself follow. The believer in a supreme will is required to subject his reasonings to a method and rule which the believer in law himself disregards.

SECTION III.

Hypothesis of Spontaneity.

OF the hypothesis that has been examined in the preceding section, viz. the necessarily indefinite perpetuity of all matter, M. Comte has made no use except in the single passage which has been quoted ; but there are two other hypotheses, viz. those of spontaneity and necessity, which without explaining them or attempting to prove their validity he has uniformly assumed as true and has variously applied throughout the whole of his Course of Positive Philosophy. The fact that such hypotheses have been assumed and employed and the nature of the principal applications they have received will be shown, and this will afford a fit occasion to consider what is really expressed and implied by those hypotheses ; whether they are consistent with reason, with fact, and with each other ; what truth may have sought and found expression by means of them ; and what error may lurk under their phraseology.

Although these hypotheses are very often presented in combination, and although it may not always be possible in attempting to estimate the one to avoid a

reference to the other, yet for the sake of clearness of conception and precision of language, it will be convenient to weigh the meaning and the merits of each separately. The present section will therefore be devoted to the hypothesis of spontaneity, and the extracts cited from M. Comte's work will have principal relation to that doctrine, although they will be found also sometimes to assume the doctrine of necessity, the consideration of which however is deferred to the following section.

Limiting attention then for the present to the hypothesis of spontaneity, we find M. Comte by means of it explaining, first, the rectilinear and uniform motion of bodies; second, the movement of the heavenly bodies in their orbits; and, third, the movement or development of the human intelligence. Each of these applications will receive distinct consideration.

In illustration of Kepler's law of inertia M. Comte states that it consists properly in this, that every motion is *naturally* rectilinear and uniform, that is to say, that every body subjected to the action of any single force which suddenly acts upon it, always moves in a straight line and with an invariable velocity; and afterwards, changing somewhat the form of language employed but adhering to the substance of the doctrine taught, he adds that we ought to regard this *spontaneous* tendency of all bodies to move in a straight line and with a constant velocity as a great law of nature.* Of course it is

* " La première loi est celle qu'on désigne fort mal à propos sous le nom de *loi d'inertie*. Elle a été découverte par Kepler. Elle consiste proprement en ce que tout mouvement est naturellement rectiligne et uniforme, c'est-à-dire, que tout corps soumis à l'action d'une force unique quelconque, qui agit sur lui instantanément, se meut constamment en ligne droite et avec une vitesse inva-

not Kepler's law but M. Comte's consistency that is here called in question; and in his explanation of that law it is obvious to remark that the motion which is represented as naturally rectilinear and uniform is also ascribed to a spontaneous tendency so to move, from which it is to be inferred that the two terms are to be regarded as mutually explanatory and interchangeable, so that the nature of the given motion is held to be spontaneous and the spontaneous tendency to that motion to be natural. If it is inquired in what sense the rectilinear and uniform motion of bodies can be said to be natural, the answer is that this epithet may be opposed either, first, to what is unnatural, that is, contrary to the nature of those bodies, or, second, to what is supernatural or above their nature; and the whole tenour of M. Comte's work shows that it is in this latter sense, as negating the supernatural, that he meant it should be understood. His version then of Kepler's law is not only that the motion communicated to bodies is rectilinear and uniform but that it is naturally so, that is, it is rectilinear and uniform in virtue of the nature of the bodies themselves, in virtue of a law inherently belonging to that nature, not imposed by, or expressing, the will of a higher nature. If the term is not a mere pleonasm—a possible but in a philosophical work scarcely an admissible interpretation—if it has any meaning at all, I can attach to it no other sense than that just given. But this sense directly violates M. Comte's own theory of hypotheses which, as has been seen, enjoins an entire abstinence from speculation regarding the inmost na-

riable."—"Nous devons regarder comme une grande loi de la nature cette tendance spontanée de tous les corps à se mouvoir en ligne droite et avec une vitesse constant." *Philosophie Positive*, i. pp. 557, 561.

ture of phenomena. He virtually says that we know nothing and can know nothing of the nature of things; that it is unscientific and unphilosophical to frame hypotheses respecting their nature; and in contrast with this he explains Kepler's law of inertia by saying that it properly consists in this that all motion is naturally rectilinear and uniform. Either his theory of hypotheses or his explanation of Kepler's law is erroneous, for the one is the antithesis of the other. Even in the very passage in which he expounds the laws of motion, he lays down conflicting propositions. He teaches that the three fundamental laws of motion ought to be regarded as simple results of observation and that it is absurd to seek to establish their reality *à priori*, although it has been often attempted; and in confutation of a metaphysical explanation of the first of those laws, the law of inertia, he asks, Are not *à priori* considerations, founded on the *nature* of things, completely and necessarily forbidden to us in positive philosophy?* This rejection and vituperation of *à priori* considerations founded on the nature of things are inscribed on the same page and proceed from the same pen which tell us that all motion is *naturally* rectilinear and uniform. That the rectilinear and uniform motion of bodies is *naturally* rectilinear and uniform is itself an *à priori* conclusion founded on the nature of things and as such, according to M. Comte's own showing, is interdicted in positive philosophy. His enunciation of such a doctrine is a

* "Les lois fondamentales du mouvement me semblent pouvoir être réduites à trois, qui doivent être envisagées comme de simples résultats de l'observation dont il est absurde de vouloir établir *à priori* la réalité, bien qu'on l'ait tenté fréquemment."—"Les considérations *à priori* fondées sur la *nature* des choses, ne nous sont-elles pas complètement et nécessairement interdites en philosophie positive?" Philosophie Positive, i. pp. 557, 558.

nullification of his hypothetical theory, or his theory is a nullification of his doctrine.

We are enabled more distinctly to apprehend what is meant by the alleged naturally rectilinear and uniform motion of bodies when we are told that this tendency to motion is *spontaneous*. What is spontaneity in this case, spontaneous motion, the spontaneous tendency of bodies to move in a straight line and with a constant velocity? It is to be observed that the motion of which M. Comte speaks is a communicated motion, motion communicated by the sudden impact of a single force, and that it is not the origin of motion, but the rectilinear and uniform continuance or prolongation of this communicated motion that is pronounced to be spontaneous. What can spontaneity in this case mean but that the rectilinear and uniform continuance or prolongation of this communicated motion flows from the inherent qualities or attributes of the body itself? But this is a purely gratuitous assumption which no observations, no *à posteriori* considerations, help to establish; and therefore from this point of view also M. Comte must be deemed to have transgressed his own theory. The positive verification of such a hypothesis is not even attempted: the hypothesis is not susceptible of positive verification. It is more rational to suppose that the continuance of communicated motion is due to the same cause from which the origin of motion is derived, whatever that cause may be. It may at least be affirmed that to assign such an effect to a property or power of the body moved is opposed to the genuine spirit of the positive philosophy, although it is the chief apostle of that philosophy who has stumbled into such a mistake.

The next application to be noticed of the hypothesis of spontaneity is to the explanation of the motions of the heavenly bodies. Thus M. Comte states that according to the theory of the figure of the heavenly bodies, it is merely their rotation which has produced their departure from the perfectly spherical form and which has *naturally* determined it in the way the most favourable to stability; and that thus under this fundamental relation as under so many others order has been *spontaneously* established in our world. In another passage he says that he has felt bound to attempt carefully to indicate under the various principal relations the fundamental influence that belongs to astronomical science to contribute irrevocably to liberate human reason from all theological or metaphysical tutelage by showing the most general phenomena as strictly subjected to relations invariable and not depending on any volition, and by exhibiting the order of heaven as necessary and *spontaneous*.* There are several points to be noted in this application of the hypothesis under consideration. One is that in this as in the former instance what is said to be naturally determined is also said to be spontaneously established, so that these two terms would appear to be used reciprocally, thus confirming the interpretation that has been given of M. Comte's meaning, that he

* "D'après la théorie de la figure des astres, c'est leur rotation même qui a produit leur écartement de la forme parfaitement sphérique et qui l'a naturellement déterminé dans ce sens le plus favorable à la stabilité. Ainsi, sous ce rapport fondamental, comme sous tant d'autres, l'ordre s'est établi spontanément dans notre monde."—"J'ai du aussi m'attacher soigneusement à indiquer sous les divers rapports principaux l'influence fondamentale propre à la science céleste pour contribuer à affranchir irrévocablement la raison humaine de toute tutelle théologique ou métaphysique, en montrant les phénomènes les plus généraux comme exactement assujettis à des relations invariables et ne dépendants d'aucune volonté, en représentant l'ordre du ciel comme nécessaire et spontané." *Philosophie Positive*, ii. pp. 325 and 326.

intended to describe spontaneity, spontaneous motion, or the spontaneous tendency to motion, as a property or power belonging to the nature of these bodies themselves. A second point is that the natural or spontaneous motion of rotation has determined the form of the heavenly bodies in a way the most favourable to stability and conducive to order, an admission which M. Comte has not always been willing to make. And a third point is that this natural stability and this spontaneous order are asserted for the expressly avowed purpose of establishing relations independent of any volition, that is, for the purpose of superseding the belief in that supreme will which theism teaches. This throws some light not only on the present but also on the preceding application of the hypothesis of spontaneity. When this state of the case becomes certain, we know the ground on which we stand and the object for which we have to contend. It adds to the interest and value of a discussion when we perceive that it bears not on mere verbal distinctions, but on things, realities, profound beliefs, in-wrought convictions, provided always that no theological rancour is imported into the treatment of the question, but only that earnestness which the love of truth demands and imparts.

When M. Comte affirms the existence of a natural and spontaneous rotatory motion producing stable and orderly relations, independent of any volition, among the heavenly bodies, he virtually presents for our consideration two hypotheses, the hypothesis of spontaneity which he summarily asserts, and the hypothesis of will which he as summarily negatives.

The first remark which the hypothesis of spontaneity

suggests when its present application is compared with that which went before is, that it is not consistent with itself. According to the first application of the hypothesis the continued motion of bodies in general is naturally and spontaneously rectilinear and uniform; but according to the second application now under review the motion of the heavenly bodies in particular is naturally and spontaneously rotatory. There is here at least a seeming contradiction. If, to escape from it, it is said that the deflection from rectilinear and uniform to rotatory motion is attributable to the influence of the resisting medium, to the attraction of other bodies, and to similar causes, then the rotatory motion by this explanation ceases to spring from the spontaneous nature of the rotating bodies and the hypothesis with which the explanation started is thus abandoned. According to this view the rotation of the heavenly bodies has not *naturally* determined their form, nor has the order of heaven been *spontaneously* established. An effect which is due in any degree to external influence cannot be said to flow spontaneously from the nature of the object which experiences the effect. This consideration, although it proves nothing, at least negatives the alleged spontaneous nature of the rotatory motion to which the spheroidal form and the stable order of the heavenly bodies are ascribed.

Waiving however this inconsistency, what is there to recommend spontaneity as the cause of the motion, of the form, and of the order of the heavenly bodies, to the positive philosopher who demands real *data* on which to rest his scientific assertions? There is not a trace of such positive *data* to be found. The spontaneity of motion,

of form, of order in the heavens is literally the mere figment of an unfettered imagination without the support either of fact or of reasoning. It is an assumption, a supposition, a hypothesis, requiring distinct proof and positive verification; but no proof is offered, no verification is even recognized as requisite. It is a gratuitous assumption, an unproven supposition, an unverified and unverifiable hypothesis. It not only contradicts itself and is destitute of any direct support, but it is also indirectly contradicted by every motion that observation and experience supply. To suppose that the spontaneous motion of material particles, of inorganic bodies, has produced an orderly arrangement of their parts and of their mutual relations is to ascribe a new and unknown property to matter, the real existence and positive influence of which must be established, before it can be assumed as the foundation of a sound hypothesis. Among the various ways in which the motion of inorganic bodies is produced in what single instance can it be shown on scientific grounds to have been produced spontaneously? In not one, it is believed, can this be proved, and until it is proved the existence of such a property must be denied, and every hypothesis resting on such a basis must be rejected.

In confirmation of this conclusion, we have not only M. Comte's authority against himself for the general principle that the cause suggested by any given hypothesis should be in its own nature susceptible of being proved by other evidence than the hypothesis, but also his authority against the particular hypothesis of the spontaneous motion of matter, which in one passage he as distinctly denies as, we have seen, in another passage he affirms. Thus in

discussing the electro-chemical theory he says that in principle every real compound ought to be regarded as necessarily stable by itself, that is, *as not being susceptible of any spontaneous alteration*, if it is strictly withdrawn from every cause of decomposition; and that, in an inverse sense, no compound can absolutely resist appropriate influences brought against it. This he deems a fundamental rule applicable alike to organic and inorganic substances, and without it chemical science would appear to him radically impossible.* Now all, or almost all, the bodies occupying space with which we are acquainted, air, water, earth, the matter of circling planets and suns, are compound; and if every compound is necessarily stable by itself, that is, not susceptible of any spontaneous alteration, how does this fundamental rule consist with the assumed spontaneous tendency of bodies to move in straight lines and with a uniform velocity? How does it consist with that spontaneous order of the heavens, that order spontaneously established in our world, which is alleged expressly for the purpose of proving that the relations of the heavenly bodies are independent of any volition and thus of liberating human reason from the tutelage of theistic belief? It is this condemned and repudiated belief that affords the only true explanation of the phenomena of the heavens. It accords with all our experience and observation that will does produce order, and it is thus

* "En principe, tout composé réel me semble devoir être regardé comme nécessairement stable par lui-même, c'est-à-dire, comme n'étant susceptible d'aucune altération spontanée, s'il est exactement soustrait à toute cause extérieure de décomposition; et en sens inverse aucun composé ne saurait persister d'une manière absolue contre des influences convenables. Les substances dites organiques ne constituent point, par leur nature, la moindre exception réelle à cette règle fondamentale, sans laquelle la science chimique me paraîtrait radicalement impossible." Philosophie Positive, iii. p. 216.

a hypothesis not only verifiable but verified. Will and nothing but will is ever known to have produced order. Will and nothing but will can have produced the order of the heavens.

The hypothesis of spontaneity is finally employed as an explanation of the movement or development of the human intelligence, sometimes in its most general and comprehensive transitions from a lower to a higher state, and at other times in the path of political or social, scientific, artistic, or industrial progress. Thus, among the philosophical considerations with which M. Comte commences the treatment of biological science he remarks that the *spontaneous* development of our intelligence, by itself without any other moving power, tends without doubt gradually to determine the passage of every branch of our knowledge from the theological and afterwards the metaphysical to the positive state, the three successive states of the human intelligence which according to his philosophy embrace the whole of its career. This is stated in terms applicable alike to the individual and to the species, to a life of years and to the life of ages, to the life of a nation and to the life of the race. Illustrating the fundamental characteristics of the positive method in the rational study of social phenomena, he considers it evident that the prevalent disposition of statesmen and even of publicists, both in the theological and in the metaphysical schools, consists in habitually conceiving social phenomena as indefinitely and arbitrarily modifiable, by continuing to suppose the human species destitute of all *spontaneous* impulsion and always ready to submit passively to the influence of the legislator, whether temporal or spiritual, provided that

he is invested with sufficient authority. In opposition to this tendency of thought and to the policy emanating from it, he holds that the political class of phenomena is as radically withdrawn as any other from human and superhuman caprices, and that the fundamental sentiment of a social movement, *spontaneous* and regulated by natural laws, necessarily constitutes the true scientific foundation of human dignity in the order of political events, since the principal tendencies of humanity thus acquire an imposing character of authority which ought to be always respected as a governing principle in all rational legislation; while the actual belief in the indefinite power of political combinations which seems at first so much to heighten the importance of man ends in truth only in attributing to him a social automatism passively directed by the absolute and arbitrary supremacy either of providence or of the human legislator. He further explains that there is an indispensable bond between the system of political powers and institutions and the general state of the corresponding civilization, and that the scientific principles of this relation essentially consist in the evident *spontaneous* harmony which must always tend to reign between the whole and the parts of the social system, the elements of which cannot avoid being finally combined with each other in a manner entirely in accordance with their own nature. No political system, he adds, whether temporal or spiritual, can ever have in general any other real object than to regulate suitably the *spontaneous* effort of humanity in order the better to direct it towards a more perfect accomplishment of its natural end previously determined; and according to the positive theory of the

spontaneous order of human societies, the worth of any political system whatsoever thus consisting essentially only in its exact harmony with the corresponding social state, it is certainly impossible that, according to the sole natural course of events and without any calculated intervention, such a harmony should not necessarily be established. Thus the continuous development of humanity may always be considered as a true gradual improvement within suitable limits, and in order to describe the process he prefers the term *development* to that of *improvement*, because the former by its nature has the invaluable advantage of directly determining wherein consists by every necessity the real improvement of humanity, for it immediately indicates the simple *spontaneous* effort, gradually seconded by a suitable culture, of the always pre-existing fundamental faculties which constitute the whole of our nature without the introduction of new faculties. He arrives at the conclusion that in sociology, dynamical as well as statical, no account is to be taken of final causes or of any providential direction, and that under both aspects society is the simple necessary consequence of the *spontaneous* order resulting from invariable natural laws. He devotes an entire lecture, the fiftieth of his course, to an exposition of his general theory of the *spontaneous* order of human societies, in which he pronounces that the essentially *spontaneous* sociability of the human species, in virtue of an instinctive inclination to life in common independently of every personal calculation and often in opposition to the most powerful individual interests, cannot henceforth be called in question ; and in a subsequent lecture, the fifty-sixth,



explaining the progressive convergence of the principal *spontaneous* evolutions of modern society towards the final organization of a rational and pacific government, he teaches that the march of science is in general, like that of industry and that of art, essentially *spontaneous*, that is to say, that it results especially from a simple natural prolongation of the principal initial influences without any important intervention of special encouragements.*

* "Le développement spontané de notre intelligence tend sans doute à déterminer graduellement par lui-même, sans aucun autre mobile, le passage de chaque branche de nos connaissances de l'état théologique et ensuite métaphysique à l'état positif." Philosophie Positive, iii. p. 278.—"En politique il est évident que, malgré l'incontestable tendance des esprits actuels vers une plus saine philosophie, la disposition prépondérante des hommes d'état et même des publicistes, soit dans l'école théologique, soit dans l'école métaphysique, consiste encore habituellement à concevoir les phénomènes sociaux comme indéfiniment et arbitrairement modifiables en continuant à supposer l'espèce humaine dépourvue de toute impulsion spontanée et toujours prête à subir passivement l'influence quelconque du législateur, temporel ou spirituel, pourvu qu'il soit investi d'une autorité suffisante."—"La vaine prétention de gouverner à notre gré ce genre de phénomènes" (c'est-à-dire, les phénomènes politiques) "aussi radicalement soustrait qu'aucun autre aux caprices humains ou surhumains."—"Ce sentiment fondamental d'un mouvement social spontané et réglé par des lois naturelles constitue nécessairement la véritable base scientifique de la dignité humaine dans l'ordre des événements politiques, puisque les principales tendances de l'humanité acquièrent ainsi un imposant caractère d'autorité, qui doit être toujours respecté comme base prépondérante par toute législation rationnelle, tandis que la croyance actuelle à la puissance indéfinie des combinaisons politiques qui semble d'abord tant rehausser l'importance de l'homme, n'aboutit, à vrai dire, qu'à lui attribuer une sorte d'automatisme social passivement dirigé par la suprématie absolue et arbitraire, soit de la Providence, soit du législateur humain."—"Cette indispensable solidarité entre le système des pouvoirs et des institutions politiques et l'état général de la civilisation correspondante." . . . "Le principe scientifique de cette relation générale consiste essentiellement dans l'évidente harmonie spontanée qui doit toujours tendre à régner entre l'ensemble et les parties du système social dont les élémens ne sauraient éviter d'être finalement combinés entre eux d'une manière pleinement conforme à leur propre nature."—"Aucun système politique, soit temporel, soit spirituel, ne saurait jamais avoir en général d'autre objet réel que de régulariser convenablement l'essor spontané" (de l'humanité) "afin de la mieux diriger vers un plus parfait accomplissement de son but naturel préalablement déterminé."—"Nous n'aurons jamais à concevoir le régime politique que d'après sa relation continue, tantôt générale, tantôt spéciale, avec l'état correspondant de la civilisation humaine, isolément duquel il ne saurait, en aucun cas, être sainement jugé, et par l'impulsion graduelle duquel il tend toujours à être spontanément produit ou modifié. Si, d'un côté, cette conception présente toute idée de bien ou de mal politique comme nécessairement relative et variable, sans être pour cela nullement arbitraire, puisque la relation est toujours rigoureusement déterminée, d'une autre part, elle devra fournir aussi la base rationnelle d'une

To sum up the propositions which are thus enounced, it appears that according to M. Comte the development of the human intelligence in the transitions from theology to metaphysics and from metaphysics to positivism; in political government and in social life;

théorie positive de l'ordre spontané des sociétés humaines, déjà vaguement entrevu, sous quelques rapports subalternes, par la politique métaphysique, dans ce qu'on nomme aujourd'hui l'économie politique. Car la valeur d'un système politique ne pouvant ainsi essentiellement consister que dans son exacte harmonie avec l'état social correspondant, nous voyons par là que sous un autre aspect il est certainement impossible que suivant le seul cours naturel des évènements et sans aucune intervention calculée, une telle harmonie ne s'établisse point nécessairement."—"Le développement continu de l'humanité peut être toujours considéré comme un vrai perfectionnement graduel entre les limites convenables. On a donc le droit rationnel d'admettre en sociologie l'équivalence nécessaire de ces deux termes généraux, ainsi qu'on le fait habituellement en biologie dans l'étude comparative de l'organisme animal. Néanmoins je dois, ce me semble, persister à employer surtout la première expression qui heureusement n'a pas encore été gâtée par un usage irrationnel et qui paraît spécialement convenable à une destination scientifique. Cette préférence est à mes yeux d'autant plus motivée que, même sous l'aspect pratique, la qualification de *développement* a par sa nature le précieux avantage de déterminer directement en quoi consiste de toute nécessité le *perfectionnement* réel de l'humanité, car il indique aussitôt le simple essor spontané, graduellement secondé par une culture convenable, des facultés fondamentales toujours pré-existantes qui constituent l'ensemble de notre nature, sans aucune introduction quelconque de facultés nouvelles."—"Pas plus dans un cas que dans l'autre" (c'est-à-dire, pas plus dans la sociologie dynamique que dans la sociologie statique) "il ne s'agit de causes finales, ni de direction providentielle quelconque. C'est toujours pour le mouvement, comme nous l'avons déjà reconnu pour l'existence, la simple suite nécessaire de cet ordre spontané résultant d'invariables lois naturelles envers tous les phénomènes possibles, et qui seulement doit se manifester d'une manière moins régulière, mais pareillement inévitable à l'égard des phénomènes sociaux, soit statiques, soit dynamiques, en vertu de leur complication supérieure."—"Cinquantième Leçon: considérations préliminaires sur la statique sociale, ou théorie générale de l'ordre spontané des sociétés humaines."—"La sociabilité essentiellement spontanée de l'espèce humaine, en vertu d'un penchant instinctif à la vie commune, indépendamment de tout calcul personnel, et souvent malgré les intérêts individuels les plus énergiques, ne saurait donc être désormais aucunement contestée, en principe, par ceux-la même qui ne prendraient point en suffisante considération les lumières indispensables que fournit maintenant à ce sujet la saine théorie biologique de notre nature intellectuelle et morale." iv. pp. 306, 308, 310, 335, 336, 341, 386, 388, 537, 541.—"Cinquante-Sixième Leçon "Convergence progressive des principales évolutions spontanées de la société moderne vers l'organisation finale d'un régime rationnel et pacifique."—"La marche de la science est en général, comme celle de l'industrie et celle de l'art, essentiellement spontanée, c'est-à-dire, qu'elle résulte surtout d'un simple prolongement naturel des principales influences initiales que nous venons de voir constituées au moyen-âge, sans aucune intervention importante des encouragemens spéciaux qui furent en suite organisés." vi. pp. 1, 250.

in science, in industry, and in art, is spontaneous; and that by this term is meant that it acts by itself and without any other motive power, without the intervention of human or superhuman caprice, independent of human legislation and providential direction, and exclusive of all reference to final causes. Conjointly with this doctrine and without any apparent perception of incongruity, he also teaches that humanity has its natural end previously determined; that in the pursuit of this end its movement is regulated by invariable laws; that political systems, temporal and spiritual, may aid in the more perfect accomplishment of this end; and that it is impossible that this end should not be attained. There are here at least seeming inconsistencies which a careful writer would have endeavoured to explain, and which a careful thinker would not hastily admit without explanation. It does not appear, for instance, how according to this hypothesis the spontaneity of the human intelligence is reconcilable with the invariable laws to which it is subject, without the supposition of a higher principle or power which the hypothesis expressly negatives. Spontaneity, to be really such, derives all its impulsion from within, without any external or superior influence; and the spontaneity of the human intelligence is the spontaneity of the individuals who are the subjects of that intelligence. How is this spontaneity, this self-motivity, this independence of the human intelligence, compatible with subjection to any law? How is the indefinite variety of its manifestations, corresponding with the indefinite number of the individuals of whom the race consists and has consisted, compatible with that unity which invariable law would create? Spontaneity, pure and simple,

knows no law but that of its own arbitrary tendencies : law, fixed and invariable, recognizes no arbitrary tendencies, but subjects all impulsions and volitions to its own authority. The hypothesis makes no provision for the conciliation of the one with the other. Again the hypothesis admits that humanity has its own natural end previously determined and certain of attainment, while it rejects all consideration of final causes. What is a final cause but a natural end previously determined and certain of attainment? Final causes are thus explicitly rejected and implicitly admitted in the same breath. Once more, the hypothesis represents political phenomena, in virtue of the spontaneous impulsion of humanity, as radically withdrawn from human and superhuman caprice, and at the same time affirms that no political system can have any other real object than to regulate suitably that spontaneous effort in order the better to direct it towards a more perfect accomplishment of its natural end. This involves a double inconsistency, for, first, it places political systems and the spontaneous development of humanity in contrast and opposition, whereas consistently the former are only one of the modes in which the latter finds expression; and next, assuming the reality of the contrast and opposition, if humanity in virtue of its spontaneous powers is all-sufficient to itself, what need of the aid of political systems for its development and for the more perfect accomplishment of its natural end? In short, if we refuse to allow ourselves to be mystified by the cloud of words in which M. Comte too often envelops his meaning we shall find that he lays down on this subject two sets of distinctly contradictory propositions between which we have to make our choice. Assume

the one alternative that the movement of humanity, of human life, intelligence, society, is spontaneous, independent of law, of human and superhuman influence, of final causes, what is this but a state of chance which is opposed to his general system of thought and against which he specially protests as one of the fallacies of metaphysicians.* Assume the other alternative that the movement of humanity is subject to invariable law, to human and to superhuman influence (and if to human, why not also to superhuman regulation, for M. Comte places both in the same category?), and to final causes, that is, to a natural end previously determined, what is this but theism, the plain interpretation of nature, of reason, and of fact, against which however M. Comte no less persistently and pointedly protests? Whichever alternative M. Comte and his followers may determine to retain, they are entangled in inextricable inconsistencies.

These inconsistencies and contradictions contain both truth and error, and we shall be aided in distinguishing the one from the other, if we consider the hypothesis of spontaneity, first, in reference to the individual, and second, in reference to the race. With reference to the individual, it is admitted that the development of the human intelligence is spontaneous in the sense that it is

* " L'école métaphysique qui, de nos jours surtout, recourt d'une manière beaucoup plus vague et moins spéciale à l'artifice de la Providence, sans cesser cependant de reposer finalement sur une telle hypothèse, fait habituellement intervenir dans ces vaines explications politiques, ses intelligibles entités, et surtout sa grande entité générale de la *nature*, qui enveloppe aujourd'hui toutes les autres, et qui n'est évidemment qu'une dégénération abstraite du principe théologique. Dédaignant même toute subordination quelconque des effets aux causes, elle tente souvent d'éluder la difficulté philosophique en attribuant principalement au hasard la production des événemens observés; et quelquefois, quand l'inanité d'un tel expédient devient trop saillante, en exagérant, au degré le plus absurde, l'influence nécessaire du génie individuel sur la marche générale des affaires humaines." Philosophie Positive, iv. 306.

the development of the fundamental faculties of the individual without the introduction of any new faculties (sans aucune introduction quelconque de facultés nouvelles). This is a most important truth, but the spontaneity thus admitted is not equivalent to self-derivation or self-subsistence, which no one thinks of ascribing to man ; nor is it inconsistent with subjection to law, since every intelligence in its spontaneous development follows the law of its own being, of which the more spontaneous the development the more perfect is the fulfilment of law. According to this view of the doctrine of spontaneity, every human being is a unit, possessing individual organs, individual functions, and individual ends, and the spontaneous development of those organs, the spontaneous fulfilment of those functions, and the spontaneous pursuit of those ends, constitute the perfection of that being. So far M. Comte's ground is unassailable. Here we have the basis of all human improvement, a criterion of all human institutions. Man, on the one hand, really advances only in proportion as he understands and develops the inherent powers of his own being ; and on the other hand every social custom, every conventional usage, every legislative enactment, every political system, that does not take into account this spontaneous development of the human intelligence in obedience to natural law, defeats itself and is itself an act of rebellion against nature and against law.

If now we turn our attention from the individual to the race and consider the hypothesis of spontaneity under this second aspect, we find that M. Comte has still strong ground for his allegations. We see in human society a spontaneous development corresponding to that which is presented in the individual intelligence. We see it

possessing corresponding organs, fulfilling corresponding functions, aiming at corresponding ends, and subject to corresponding natural laws. But notwithstanding this undoubted analogy, in at least one important respect the conditions of the problem are changed. In the spontaneous development of individual intelligence, the spontaneity and intelligence are those of a distinct unitary being, of a separate personal existence. The organs, the functions, the ends are those of an individual. The laws by which their operation is governed specially affect the welfare of an individual. But in the spontaneous development of the race where is the unit, the individual, the person to be found in whom the spontaneity resides and from whom it flows, who exercises organs, discharges functions, seeks ends, and obeys law? M. Comte speaks with just confidence of the development of humanity. There is such a thing as the development of humanity, a far greater and nobler idea than the development of the individual. But where and what is that humanity which is thus developed? Humanity is a name which means 'nothing apart from the individuals that compose the human race, and of those individuals there has probably never been even one in any age or nation with capacities so large, with motives so disinterested, with opportunities so ample as to make the development of the race, as a race, the object of distinct contemplation, much less of persistent and effective endeavour. The greatest philanthropist can take but a small fraction of humanity within the grasp of his intellect and can bring only a much smaller fraction under his influence. Yet the development of humanity of which no human being

thinks, which no human being definitely and in its entirety aims at, which no human being designedly promotes, that development, as M. Comte truly affirms, irresistibly advances and cannot but advance. Here then is an undeniable and acknowledged effect taking place before our eyes on the great field of humanity to which not only is man incompetent, but of which he has scarcely formed the conception, towards which he has not directed a single effort, nay to which his ignorance, his selfishness, his folly, his violence, and his pravity have offered and continue to offer obstructions. Is it possible to find an adequate cause for this effect in that spontaneity on which M. Comte delights to dwell? Does it not clearly point to a will above that of man, to "a divinity that shapes our ends, rough-hew them how we will"? Thus from M. Comte's premisses is deduced a conclusion diametrically opposed to that which he seeks to establish.

It seems not unreasonable to expect that a positive philosopher will inform us what is the positive basis of this hypothesis of spontaneity, what the positive proof of the existence of this quality in objects. The doctrine of the spontaneous generation of some of the lowest forms of animal life has been advanced, and, always doubtful, has been disproved in proportion as scientific investigation has been prosecuted. M. Comte has not failed to denounce this doctrine and the researches which lead to it as vain, sterile, and unscientific.* This doc-

* "L'influence très-prononcée de la philosophie métaphysique ne s'y fait pas seulement sentir sous la forme directe et grossière manifestée par les physiologistes arriérés qui en sont restés aux forces plastiques. Ceux même que domine réellement une intention beaucoup plus positive subissent encore à leur insu d'une manière indirecte et spécieuse ce ténébreux ascendant lorsque dans un ordre des phénomènes aussi profondément compliqué, ils entreprennent

trine requires us to believe that life is self-originated, in other words that life is its own cause and its own effect, that life produced life before life was, that the powers of life were exercised before they were possessed ; a doctrine intrinsically so self-contradictory that no observations or experiments could establish it, no reasoning could prove it, no system of positive science or natural order could embrace it. Yet there is something so grand, so wonderful, so mysterious in life that, in order to exhaust the sources of error, it was perhaps desirable to assume every conceivable explanation of its origin, and amongst others, however irrational, that of spontaneous generation. It might, however, have been supposed or hoped that this was the extreme limit of scientific inconsequence, and that the unqualified rejection of this doctrine could not be accompanied by the equally unqualified adoption of a precisely analogous error. But this is the position in which M. Comte has placed himself. What is there more futile and absurd in the doctrine of spontaneous generation which he condemns than in the doctrine which he teaches of spontaneous rectilinear and uniform motion, spontaneous celestial order, spontaneous universal harmony and social progress? Self-trained rigidly to demand from himself and from others the most positive evidence for every doctrine that he inculcates or accepts, he sees no inconsistency, no self-contradiction, no violation of the principles of positive philosophy, while he repudiates the one doctrine, in teaching the other. He sees no inconsistency in teaching and in requiring others

aujourd'hui, par des recherches nécessairement stériles sur les générations spontanées, cette vaine détermination des causes essentielles à laquelle les physiciens ont unanimement renoncé désormais envers les plus simples effets naturels." *Philosophie Positive*, iii. 682.

to believe that the heavenly bodies in the immeasurable depths of space, in the multiplied complications of movement, and in the responsive perturbations which in endless succession they mutually receive and communicate, wheel their majestic and continuous course, without confusion, in the most perfect order, and all by their own inherent and self-derived forces, providing against the ever-recurring contingencies of such indefinite combinations without a will to prompt or an end to direct their motions. He sees no inconsistency in pronouncing that notwithstanding the interests and ambitions, the sympathies and antipathies, the errors and vices, and the endless conflicting motives of individuals, in all ages of the world, in all the generations of men, and in all the nations of the earth, the order of society is spontaneous without a governing mind and a directing providence. His own doctrine of spontaneity not less than that which he impugns is a libel upon positive philosophy which neither requires nor tolerates the conception of such a metaphysical monstrosity.

SECTION IV.

Hypothesis of Necessity.

THE hypothesis of necessity as expressed or implied in the Positive Philosophy of M. Comte now comes under consideration. This is not the question of liberty and necessity, the liberty or necessity of man's will, although that may be aided by the present one which is the simpler question of the meaning of the words *necessity*, *necessary*, *necessarily*, when used with scientific accuracy in a philosophical proposition. What definite conception do we possess in our own minds or seek to communicate to others, when we say that a given event happens *necessarily*, that the existence of a given phenomenon is *necessary*, that the event or phenomenon springs from *necessity* or occurs by *necessity*, or that *necessity* causes or produces it? Whether we employ the adverb, the adjective, or the noun, the idea involved in all is essentially the same. What is that idea? What ought it to be for the purpose of correct thinking and reasoning? What is it in M. Comte's Positive Philosophy? There is no important term which M. Comte has employed so often and so variously as this class of words expressing the idea of

necessity, but it is only a few passages that will here be adduced in the way of illustration, bearing some reference, more or less direct, to the question under discussion between the impugners and defenders of theism and to the analogous applications already noticed of the hypothesis of spontaneity.

The *first* application of that hypothesis that was considered was as an explanation of the rectilinear and uniform motion of bodies which was declared to be natural and spontaneous; and that same motion we now learn on the same authority is a *necessity*. Thus the rectilinear motion of bodies which constitutes the first part of Kepler's law of inertia M. Comte characterizes as a necessity (*la nécessité du mouvement rectiligne*, i. 557); and he must be understood as equally applying that term to the second part of that law (*l'invariabilité de la vitesse*, p. 559), while he utterly rejects all the metaphysical reasons assigned to account for that necessity. The rectilinear and uniform motion of bodies is then, according to M. Comte, not only natural and spontaneous: it is also necessary. That motion is not merely a fact: it is more than a fact—a necessity. The *second* application of the hypothesis of spontaneity was as an explanation of the order of the heavenly bodies which, in express opposition to the theistic assumption of will as the cause of that order, was described as spontaneous and spontaneously established; and that spontaneous and spontaneously established order we are also told is *necessary* and constitutes an *inevitable* concatenation (*l'ordre du ciel nécessaire et spontané—cet enchainement inevitable*, ii. 386). The proposed substitutes for will, the assumed theistic cause of celestial order, are spontaneity and an

inevitable necessity. The *third* application of the hypothesis of spontaneity was as an explanation of the development of our intelligence, of the order of society, and of the progress of humanity, all of which were described as spontaneous; and we are now also told that that development, order, and progress are *necessary*. Thus in studying the entire development of the human intelligence in its different spheres of activity from its first most simple effort to our own times M. Comte believes that he has discovered a great fundamental law to which it is subjected *by an invariable necessity*. This law consists in the passage of the human mind through three states, first, the theological or fictitious state; second, the metaphysical or abstract state; and third, the scientific or positive state. The first state, he tells us, is the *necessary* point of departure of the human intelligence; and the point of departure, he adds, is *necessarily* the same in the education of the individual as in that of the species. The third is the fixed and definitive state of the intelligence. And the second is solely destined to serve as a transitional one.* This law is not now to be examined, but what is important to be considered here is that according to M. Comte the human mind is sub-

* "En étudiant le développement total de l'intelligence humaine dans ses diverses sphères d'activité depuis son premier essor le plus simple jusqu'à nos jours, je crois avoir découvert une grande loi fondamentale à laquelle il est assujéti par une nécessité invariable. . . . Cette loi consiste en ce que chacune de nos conceptions principales, chaque branche de nos connaissances, passe successivement par trois états théoriques différents, l'état théologique ou fictif; l'état métaphysique ou abstrait; l'état scientifique ou positif. . . . De là trois sortes de philosophies ou de systèmes généraux de conceptions sur l'ensemble des phénomènes qui s'excluent mutuellement: la première est le point de départ nécessaire de l'intelligence humaine; la troisième son état fixe et définitif; la seconde est uniquement destinée à servir de transition."—"Le point de départ étant nécessairement le même dans l'éducation de l'individu que dans celle de l'espèce, les diverses phases principales de la première doivent représenter les époques fondamentales de la seconde." Philosophie Positive, i. pp. 3, 7.

jected to it by an invariable necessity, and that the successive states and their respective ends are declared to be necessary, determined, and definitely fixed. The same idea is expressed when the passage of the final science of sociology to the truly positive state is declared to be *necessary*; when it is confidently pronounced *impossible* that harmony should not be *necessarily* established between any political system whatsoever and the corresponding social state; and when this universal harmony, physically and socially, statically and dynamically, is represented, to the exclusion of all final causes and providential direction, as the simple *necessary* consequence of spontaneous order resulting from invariable natural laws.*

What is to be gathered from these examples? The inference to be deduced from them is that M. Comte had formed a hypothesis of necessity, describing by that term an ultimate principle at which he had arrived, and which appeared to him to afford some explanation of the phenomena of the universe, of the human intelligence, and of social progress. It is not supposed or affirmed that he spread out this hypothesis in formal terms before his

* "On ne risquera nullement de tomber dans un dangereux scepticisme en détruisant irrévocablement aujourd'hui l'enfance prolongée de la science sociale pourvu que ce ne soit, comme en tout autre cas, que le résultat spontané du passage nécessaire de cette science finale à l'état vraiment positif."—"La valeur d'un système politique quelconque ne pouvant essentiellement consister que dans son exacte harmonie avec l'état social correspondant, nous voyons par là que sous un autre aspect, il est certainement impossible que, suivant le seul cours naturel des événemens et sans aucune intervention calculée, une telle harmonie ne s'établisse point nécessairement."—"Cette harmonie universelle, premier principe de l'ordre réel," . . . "est toujours pour le mouvement, comme nous l'avons déjà reconnu pour l'existence, la simple suite nécessaire de cet ordre spontané résultant d'invariables lois naturelles, envers tous les phénomènes possibles, et qui seulement doit se manifester d'une manière moins régulière mais pareillement inévitable à l'égard des phénomènes sociaux, soit statiques soit dynamiques, en vertu de leur complication supérieure." *Philosophie Positive*, iv. pp. 301, 341, 388.

mind, supported it by formal proofs, and deduced from it formal conclusions. If he had done so there would have been less difficulty in confuting it. The allegation is that he unphilosophically did the very reverse of this, and that he constantly assumes the truth of such a hypothesis and deduces conclusions from it, without any proof of its truth and even without any statement of the terms in which he conceived it to be true. That such a hypothesis is implied in his language appears from two separate considerations. One is the avowed fact that necessity (conjointly with spontaneity) is employed to supersede the theistic supposition of will, of providential direction, and of final causes (Phil. Pos. ii. 385 and iv. 388, quoted pp. 364, 373). The two hypotheses, theistic and anti-theistic, are placed in direct contrast and antagonism, and that he advances the latter can no more be denied than that he assails the former. Whatever may have been the process of assumption or of reasoning in his own mind, in his philosophy he expressly substitutes the anti-theistic hypothesis of necessity (together with that of spontaneity) for the theistic hypothesis of will. The second consideration which leads to the same conclusion is that if we omit the terms in question (*necessity, necessary, necessarily*) from the propositions in which they are contained, that is, if we omit the hypothesis of necessity which those terms imply, the propositions themselves lose the precise force which M. Comte meant to attribute to them, and become in fact theistic in their complexion and perfectly reconcilable with a theistic conclusion. Thus in both the passages cited above, omit the assumed necessity (and spontaneity) of celestial and social order, and there is nothing in the

affirmation of invariable law that is incompatible with the exercise of will, for it is evident that will may be exerted to establish law either variable or invariable according to the capacity and character of the voluntary agent. On the other hand affirm, as M. Comte does, the necessity (and spontaneity) of order inherent in nature and in society without will and in contradistinction from will, and you have a definite form of anti-theistic doctrine based upon a distinct anti-theistic hypothesis. On these grounds it is held that the hypothesis of necessity, whatever that may amount to, in opposition to that of will, is included in M. Comte's system of philosophy and clearly implied in his language. The inquiry still remains, What is the meaning, the force, the value, of such a hypothesis? What meaning, force, value does M. Comte himself give to the terms *necessity*, *necessary*, *necessarily*, to the propositions in which they are contained, and to the hypothesis which they involve?

The only explanation by M. Comte of his meaning in the employment of the word *necessary* is contained in the forty-ninth lecture which treats of the necessary relations of social physics with the other fundamental branches of the positive philosophy. He there says that sociology must borrow from biology a very valuable philosophical principle, viz., the indispensable principle of the conditions of existence which he describes as a happy positive transformation of the dogma of final causes. This principle, he says, is the necessary result of the general distinction between the statical and the dynamical states, and in virtue of it the new political philosophy combining the two philosophical meanings of the word *neces-*

sary, will spontaneously tend, in what concerns at least all social arrangements of any great importance, constantly to represent as inevitable what at first appears indispensable, and reciprocally. Such a spirit, he adds, seems eminently appropriate to the nature of social studies, since we find ourselves equally brought to it by the most opposite philosophical routes, as especially is shown by the fine political aphorism of the illustrious De Maistre, *Whatever is necessary exists*. In a note appended to this passage M. Comte proposes an entirely new work on the philosophy of language which, instead of bringing together the different words that have identical or analogous meanings, would on the contrary be devoted to a comparison of the different fundamental meanings of the same term, a project not so new in the conception as he seems to have imagined. He illustrates the advantages of the proposed work by a further reference to the double meaning of the word *necessary* just indicated, which appears to him to offer one of the most characteristic examples both of the nature of this new operation and of the happy influence which its adequate accomplishment would exercise upon the gradual development and universal extension of the true philosophic spirit. He considers it incredible that this apparent confusion between different meanings of the same word can have been accidental: we ought to see in it rather the valuable and irrefutable evidence of a certain fundamental coincidence, admirably apprehended by the general reason of mankind, between the two ideas thus combined. *

* "La sociologie y devra emprunter à la biologie un principe philosophique très précieux destiné à y devenir extrêmement usuel et qui y recevra même son plus entier développement scientifique: il s'agit de cette heureuse transformation positive du dogme des causes finales qui constitue l'indispens-

The substance of this explanation appears to be that, in obedience to the fundamental principle of the conditions of existence, M. Comte offers two substitutes for the word *necessary* or illustrates it by two other words, one being the word *indispensable* and the other the word *inevitable*, each expressing a necessity, but a necessity under a special aspect, and the one being interchangeable with the other, so that what at first appears indispensable is seen to be inevitable, and conversely what is inevitable becomes indispensable. This analysis of the idea of necessity into the two ideas of indispensableness and inevitableness, although suggestive, is liable to two important defects. The first is that M. Comte has not indicated, even by a single example, to what cases or class of cases the one sense, and to what the other sense, would specially apply. The reader or thinker is left at sea without a chart or a rudder to determine what pheno-

able principe des conditions d'existence. On sait que ce principe, résultat nécessaire de la distinction générale entre l'état statique et l'état dynamique, appartient surtout à l'étude des corps vivans, où cette distinction est beaucoup plus prononcée qu'ailleurs, et à laquelle en effet l'esprit humain est surtout redevable de cette importante opération philosophique : c'est donc là seulement que la notion générale en peut être aujourd'hui convenablement acquise. Mais quelle que soit sa haute utilité directe dans l'étude de la vie individuelle, la science sociale doit en faire par sa nature une application encore plus étendue et plus essentielle. C'est en vertu de ce principe vraiment fondamental que, rapprochant directement l'une de l'autre les deux acceptions philosophiques du mot *nécessaire*, la nouvelle philosophie politique tendra spontanément, en ce qui concerne au moins toutes les dispositions sociales d'une haute importance, à représenter sans cesse comme inévitable ce qui se manifeste d'abord comme indispensable et réciproquement. Il faut qu'un tel esprit soit éminemment propre à la nature des études sociales, puisqu'on s'y trouve également amené par les voies philosophiques les plus opposées ainsi que l'indique surtout ce bel aphorisme politique de l'illustre de Maistre : *Tout ce qui est nécessaire existe.*" Philosophie Positive, iv. pp. 490-492. "Le double sens du mot *nécessaire* que je viens d'indiquer, me paraît offrir un des exemples les mieux caractérisés, soit de la nature de cette opération nouvelle, soit de l'heureuse influence que pourrait exercer son convenable accomplissement sur le développement graduel et l'extension universelle du véritable esprit philosophique. Il ne faut pas croire en effet que cette confusion apparente puisse jamais être accidentelle : on y doit toujours voir le précieux et irrecusable témoignage d'une certaine coïncidence fondamentale, admirablement sentie par la raison publique, entre les deux idées ainsi rapprochées." *Note*, p. 491.

mena are to be regarded as primarily indispensable, and what as primarily inevitable. Without some such guide the analysis has no practical utility. The second defect is that, even if such a distinction were made, it does not appear what would be gained either in clearness of conception or in precision of language by the substitution of two terms for one, each of which as much requires explanation as the one which they are employed to interpret or displace. When a phenomenon is affirmed to be necessary; in astronomy, the order of the heavens; in biology, the connection between organ and function; in sociology, the progress of civilization; the alleged necessity is not explained by saying that the given phenomenon is indispensable to the conditions of existence or is inevitable under those conditions. The necessity is merely re-affirmed in other words. If we say that the existence of a given organ is the *indispensable* condition of the performance of the given function, and that the performance of the given function is the *inevitable* condition of the existence of the given organ, what more is gained than if we were to say that the existence of the given organ is the *necessary* condition of the performance of the given function, and that the performance of the given function is the *necessary* condition of the existence of the given organ? The difference is a mere play upon words, a mere change of counters, which adds nothing to the total amount of our ideas and affords no greater insight into the relations of phenomena. If we are told that the order of the heavens and the development of society are *necessary*, and if in explanation it is added that they are *inevitable* consequences of antecedent causes and *indispensable* causes of future results, what increase does this

explanation give to the amount of our knowledge or to the certainty of our convictions? None. We simply assert by a periphrasis, which perhaps disguises even from ourselves the poverty of our thought, that causation is permanent; that events are connected with each other in the relation of causes and effects; that appropriate means continue to fulfil designed ends and designed ends to be fulfilled by appropriate means. Beyond this, the words *necessary*, *indispensable*, *inevitable*, express nothing, explain nothing, teach nothing. They give us no clue to understand the order of the heavens or the order of society, the laws of nature or the mysteries of life. Without the use of these words we may know but little: in the use of them we are as profoundly ignorant as we were before.

If in conformity with M. Comte's system of thought we endeavour to find some basis for the idea of necessity without having recourse to a supreme will which he rejects, we shall fail in the attempt. Necessity is an abstract conception and describes a quality of existence, and it must therefore inhere in some mode or form of being. What is it that is necessary, or indispensable, or inevitable? Is it phenomena, the phenomena of motion, of celestial order, of social harmony? If so, why are phenomena necessary? If you do not know why they are necessary, how do you know that they are necessary? Is it the forms of phenomena that are necessary? But the forms of phenomena are continually changing. Is it the relations of phenomena that are necessary? But the mutual relations of phenomena are equally mutable. Is it that invisible link called law which binds certain phenomena into a class

and all classes of phenomena into a coherent whole? But law is itself, like necessity, an abstract conception, and whether they are separately regarded as law and necessity or in combination as necessary law, these abstract conceptions demand an appropriate substance in which they inhere, a mind from which they emanate, a will which they express, an end to which they are directed; and thus even M. Comte's favourite principles of law and necessity carry us back to the ideas of a God and a providence from which by means of them he seeks to divorce the human reason.

Taking this hypothesis of necessity in itself, and holding it independent, as M. Comte does, of the belief in a supreme will, let it be further considered whether necessity or necessary law can be accepted as the fundamental principle of a sound positive philosophy. In the exposition of his philosophy M. Comte repeatedly recognizes the distinction between the statical and dynamical relations of phenomena. He considers that under this double aspect all natural effects may be conceived as simple necessary results either of the laws of extension or of the laws of motion. He applies this distinction to the phenomena of the universe in its widest sense, and on a narrower scale to the phenomena of the solar system. And finally he teaches a corresponding distinction in the phenomena of society, the distinction between order and progress, two conditions which he holds to be equally imperious and to exist in intimate and indissoluble combination.* The question that arises upon this is, not

* " Je dois rappeler une conception philosophique de la plus haute importance, exposée par M. de Blainville dans la belle introduction de ses *Principes Généraux d'Anatomie Comparée*. Elle consiste en ce que tout être actif, et spécialement tout être vivant, peut-être étudié dans tous ses phénomènes sous

whether two such classes of phenomena exist, viz., statical and dynamical phenomena in nature, and the analogous phenomena of order and progress in society, but whether the existence of both is possible or conceivable under a system in which necessity or necessary law is the principle on which every thing rests, wholly independent and exclusive of a supreme will. For what does necessity mean when ascribed to any given series or class of phenomena such as those, whether material or moral, which M. Comte has signalized? It means that those phenomena which are said to be necessary must be what they are, and cannot be other than what they are. No one can identify necessity with fixity and invariability

deux rapports fondamentaux, sous le rapport statique et sous le rapport dynamique, c'est-à-dire, comme apte à agir et comme agissant effectivement." Philosophie Positive, i. p. 32.—"Si toutes les parties de l'univers étaient conçues comme immobiles, il n'y aurait évidemment à observer que des phénomènes géométriques, puisque tout se réduirait à des relations de forme, de grandeur, et de situation; ayant ensuite égard aux mouvemens qui s'y exécutent, il y a lieu à considérer de plus des phénomènes mécaniques. En appliquant ici, après l'avoir suffisamment généralisée une conception philosophique due à M. de Blainville, on peut donc établir que, vu sous le rapport statique, l'univers ne présente que des phénomènes géométriques, et sous le rapport dynamique, que des phénomènes mécaniques. Ainsi la géométrie et la mécanique constituent par elles-mêmes les deux sciences naturelles fondamentales, en ce sens que tous les effets naturels peuvent être conçus comme de simples résultats nécessaires ou des lois de l'étendue ou des lois du mouvement." i. p. 141.—"Les phénomènes géométriques qui peuvent être le sujet de nos recherches dans le système solaire dont nous faisons partie forment deux classes bien distinctes; les uns se rapportent à chaque astre envisagé comme immobile et comprennent sa distance, sa figure, sa grandeur, l'atmosphère dont il est peut-être entouré, &c., en un mot, tous les élémens essentiels qui le caractérisent directement; les autres sont relatifs à l'astre considéré dans ses déplacements et se réduisent à la comparaison mathématique des divers positions qu'il occupe aux différentes époques de sa course périodique. . . . Cette division n'est point purement artificielle. On pourra l'exprimer commodément en employant les expressions de phénomènes *statiques* pour le premier ordre et phénomènes *dynamiques* pour le second." ii. p. 93.—"L'ordre et le progrès que l'antiquité regardait comme essentiellement inconciliables, constituent de plus en plus par la nature de la civilisation moderne deux conditions également impérieuses dont l'intime et indissoluble combinaison caractérise désormais et la difficulté fondamentale et la principale ressource de tout véritable système politique. Aucun ordre réel ne peut plus s'établir ni surtout durer, s'il n'est pleinement compatible avec le progrès; aucun grand progrès ne saurait effectivement s'accomplir, s'il ne tend finalement à l'évidente consolidation de l'ordre." iv. p. 9.

more explicitly than M. Comte has done. Now fixity and invariability are the precise and definite qualities of statical phenomena, and to say that any given phenomena are statical is to say that they are fixed and invariable, that is, necessary or subject to necessity or necessary law. The same definition, however, excludes dynamical phenomena from a system of necessity or necessary law ; that is, excludes phenomena which are subject to change from a system characterized by fixity and invariability. For fixity and invariability mean absence of change. Motion, for instance, is change, and fixity and invariability are, when ascribed to physical objects, synonymous with absence of motion. Necessity thus is immobility ; and necessary law, considered simply in itself without any concomitant and superior power or will, is a law that would impose immobility on the universe of nature as the essential condition of its existence. Necessity, if it were indeed the fundamental principle of all things, might have produced the *Tohu* and *Bohu* of the Hebrew cosmogony, or it might now reproduce that stagnant void and congeal the vast panorama of the heavenly orbs into inert masses. But in order to combine dynamical with statical phenomena ; motion, life, and thought with form, magnitude, and position ; action and progress with order and beauty ; a higher power than necessity must preside, a divine spirit must move on the face of nature and of society. M. Comte in teaching the doctrine of necessity without a supreme will teaches a doctrine that would annihilate science, society, and history, and would reduce the universe to a petrification equally without man capable of knowing,

loving, and adoring, and without a divinity worthy to be known, loved, and adored.

It may be objected that the absence of motion, life, and thought, the universal stagnation of nature and being, which from the very definition of necessity is assumed as its result without a supreme will, must be equally the result of necessity with such a will. Necessity, it may be argued, does not lose its inherent nature, its special and peculiar phenomena are not less inevitable, under the guidance of a supreme will than if that necessity were sole and omnipotent. This is true. Necessity must remain necessity whether with or without a God. The objection may even be strengthened by the consideration that, if there is a God, he cannot be other than a necessary being. We cannot conceive of him otherwise than as a necessary being. Necessary laws cannot be, or be conceived to be, other than expressions of his necessary will. His necessary will cannot express itself, or be conceived by us as expressing itself, otherwise than in necessary laws. In affirming a God we by no means annul necessity. If there is a God, he is a necessary being, his will is necessary, his laws are necessary, and all the complicated effects and causes which flow from their operation are necessary. Those, however, who would employ this objection as an argument against the being of a God, as if a necessary mind expressing itself in necessary law were as incompatible with motion, life, and thought, as necessary law without such a mind is shown to be, overlook the essential conditions of the question. The essential conditions of the question are that motion, life, and thought exist ;

and the argument is that the hypothesis of necessity does not, but that the hypothesis of will does, explain their existence.

Within our own experience and under our own observation necessity and motion are in constant and conjoint operation, that is, necessary motion exists. The argument against M. Comte's hypothesis of necessity is not that necessity and motion are incompatible, but that necessity and motion without will are incompatible. Necessity does not explain motion. To say that motion is necessary is merely to affirm the continuity or perpetuity of the causes that produce it. If necessity, as M. Comte assumes, were the primary principle of all things, then all things, as has been shown, would be stationary, and being stationary there would exist, as M. Comte admits, only relations of form, of magnitude, of position. But the globe on which we live is a moving body, and the planets, suns, and systems by which it is surrounded in space are all in motion. Those motions are acknowledged to be under the operation of necessary law, and therefore necessity and motion are not incompatible. But necessity alone, absolute, underived, unconditional necessity, such as M. Comte assumes, would transfix every heavenly body in eternal immobility. How could necessity originate motion to which by its very definition it is opposed? We are thus driven to the supposition of a cause which shall not exclude necessity, for necessary laws exist producing necessary motion ; but which shall be higher than mere necessity, for motion and law exist which mere necessity could not produce and maintain. That cause is the necessary source and support of all law and of all

motion. How could motion originate or the laws of motion be sustained except by the operation of will, a connection of cause and effect of which we furnish illustrations every day of our lives whenever we move a limb or speak a word.

In like manner within our own experience and under our own observation necessity and mind are in constant and conjoint operation, that is, necessary order exists in mental and moral relations. Here again the argument against M. Comte's hypothesis of necessity is not that necessity and mind are incompatible, but that necessity and mind without will are incompatible, and this is the more obvious, inasmuch as volition is merely one of the modes of mental operation. Necessity does not explain mind. To say that the order of mental and moral relations is necessary is merely to affirm the continuity or perpetuity of the causes that produce it. We ourselves live, think, and reason. We see others living, thinking, and reasoning around us. And M. Comte teaches that they and he and we are alike under the operation of necessary law. It follows that necessity and mind are not incompatible, and that something more than necessity is required to explain the existence of mind. If necessity were the supreme and ultimate principle there could be no life, no mind, no thought, no will. There would be universal mental and moral stagnation. But we and others live, think, reason, and act, and therefore necessity is not supreme and ultimate. How could life originate except from some living power? How thought except from some thinking being? Necessity is not that power, that being, and we are thus compelled to conceive of a higher, greater, and better whom we call God,

compelled to conceive of that higher, greater, and better as expressing his being in the operation of necessary law, and consequently compelled to conceive of necessary law, not as the antithesis, but as the effluence of necessary mind, thought, and will.

Not only do we perceive in motion, life, and thought, the inadequacy of a mere necessity to produce such phenomena and the adequacy of a necessary mind for their production, but we perceive also the point of conciliation and union between the fixed and invariable character of statical, and the apparently fleeting and indeterminate character of dynamical, phenomena. Necessity, the fundamental principle of the positive philosophy, is an abstract impersonal conception, and simply means that the object or being to which or to whom it is ascribed must be and remain what it is. Applied to what we call matter it means that matter having no inherent motive force is and must be of itself immobile, possessing only statical properties, such as form, magnitude, position. Applied to what we call mind it means that mind having an inherent motive force is and must be of itself mobile, possessing and communicating dynamical properties, such as motion, life, thought. Conceive the universe of nature subject to necessary laws, as M. Comte assumes, without an impelling, animating, informing, presiding mind, then within the remotest bounds of space, motion, life, and thought would cease, and by the force of that necessity the universe would be frozen into one vast icicle. Conceive an impelling, animating, informing, presiding mind, then by the force of the same necessity we shall have

the fair and glorious world that we now see spread before and around us, full of motion, life, and thought, revealing the mind of which it is the expression, and reflecting in the necessary laws both of matter and of mind the grandeur and excellence of their source. Necessity, instead of being incompatible with mind, is precisely that attribute of mind which gives stability, and the assurance of stability, to the universe and its laws.

SECTION V.

Hypotheses of Spontaneity and Necessity.

IN the two preceding sections the hypotheses of spontaneity and necessity have been separately considered with a view to a just estimate of the independent merits or demerits of each. But neither is held by M. Comte to the exclusion of the other. In his positive philosophy they are assumed and affirmed simultaneously and are presented as existing in intimate union and in harmonious co-operation. To both of these hypotheses he recurs with great frequency and great variety of phrase and application. Every thing is either necessary or spontaneous, or it is both the one and the other. Law is necessary, order is spontaneous, law and order are both necessary and spontaneous. Every thing exists necessarily, that is, it is because it must be and cannot but be. Every thing exists spontaneously, that is, it is what it is in virtue of its inherent forces or energies. These are primary ideas belonging to his system of thought, ideas on which his mind reposes with confidence as ultimate principles, above or beyond which he cannot ascend, by which all phe-

nomena are explained, and from which all the laws of phenomena are dogmatically deduced. Thus, in passages already cited, the order of the heavenly bodies is represented as both *necessary and spontaneous* (p. 364); the fundamental sentiment of a *spontaneous* social movement as *necessarily* constituting the true scientific basis of human dignity (p. 372); human society as the simple *necessary* consequence of the *spontaneous* order resulting from invariable natural laws (p. 373); and the extinction of the early forms of civilization as the *spontaneous* result of the *necessary* passage of social science into the positive state (p. 385). Other illustrations of this combination will hereafter appear, but these are sufficient to establish the fact. The inquiry arises whether the two hypotheses thus assumed are compatible with each other. Can they consistently belong to the same system of thought, and constitute the foundations of the same system of philosophy? Or are they on the contrary mutually contradictory and subversive?

In response to this inquiry, it is submitted for the judgment of the reader whether M. Comte, perhaps from the want of those habits of interior observation which he crudely contemns* and from the consequent

* " Il est sensible en effet que, par une nécessité invincible, l'esprit humain peut observer directement tous les phénomènes excepté les siens propres. Car, par qui serait faite l'observation? On conçoit, relativement aux phénomènes moraux, que l'homme puisse s'observer lui-même sous le rapport des passions qui l'animent, par cette raison anatomique, que les organes qui en sont le siège sont distincts de ceux destinés aux fonctions observatrices. Encore même que chacun ait eu occasion de faire sur lui de telles remarques, elles ne sauraient évidemment avoir jamais une grande importance scientifique, et le meilleur moyen de connaître les passions sera-t-il toujours de les observer en dehors: car tout état de passions très-prononcé, c'est-à-dire, précisément celui qu'il serait la plus essentiel d'examiner, est nécessairement incompatible avec l'état d'observation. Mais, quant à observer de la même manière les phéno-

neglect of that careful analysis of the mental conceptions which interior observation enforces and facilitates, has not unconsciously adopted two fundamental principles from two conflicting theories, each principle and each theory being not only opposed to the other, but both also irreconcilably hostile to the principle and the theory which he himself advocates and with which he seeks to incorporate such incongruous elements.

What is the distinguishing idea that underlies and pervades the theory of chance? It is that in every fact of nature and every event of history there is a total absence of law, of causation, of necessary connection between one fact or event and another; that every fact exists and every event happens single, isolated, and independent; and that no fact or event can be traced to its source or followed to its consequences. And what is the distinguishing idea that underlies and pervades the doctrine of spontaneity in the philosophy of M. Comte? It is that the phenomena to which that quality is ascribed are self-derived; that they proceed from and are sustained by their own inherent force; and that they are

mènes intellectuels pendant qu'ils s'exécutent, il y a impossibilité manifeste. L'individu pensant ne saurait se partager en deux, dont l'un raisonnerait, tandis que l'autre regarderait raisonner. L'organe observé et l'organe observateur étant dans ce cas identiques, comment l'observation pourrait-elle avoir lieu? Cette prétendue méthode psychologique est donc radicalement nulle dans son principe. Aussi, considérons à quels procédés profondément contradictoires elle conduit immédiatement! D'un côté on vous recommande de vous isoler, autant que possible, de toute sensation extérieure, il faut surtout vous interdire tout travail intellectuel; car, si vous étiez seulement occupés à faire le calcul le plus simple, que deviendrait l'observation *intérieure*? D'un autre côté, après avoir enfin, à force de précautions, atteint cet état parfait de sommeil intellectuel, vous devrez vous occuper à contempler les opérations qui s'exécuteront dans votre esprit, lorsqu'il ne s'y passera plus rien! Nos descendants verront sans doute de telles prétensions transportées un jour sur la scène. Les résultats d'une aussi étrange manière de procéder sont parfaitement conforme au principe. . . . *L'observation intérieure* engendre presque autant d'opinions divergentes qu'il y a d'individus croyant s'y livrer." Philosophie Positive, i. p. 35. See also iii. p. 773, and vi. pp. 483, 708.

independent of external or superior influence. What is this but another name for chance? Where is the dividing line between chance and spontaneity? Why may not the so-called spontaneous order of heavenly bodies and of human society fall into the anarchy of chance? Why may not the anarchy of chance amongst other contingencies achieve the dignity of spontaneous order? And yet it is this doctrine of spontaneity, essentially identical with the theory of chance, that we find mixed up with a system of positive philosophy professedly based on fixed and invariable law.

Again, what is the distinguishing idea that underlies and pervades the theory of will? It is that there is one supreme, all-pervading, and immutable mind which governs all things and all beings with perfect wisdom and goodness. And what is the distinguishing idea that underlies and pervades the doctrine of necessity in the philosophy of M. Comte? It is that all things and all beings are governed by law, that law is fixed and invariable, and that its operations are not subject either to divine or human caprice. The theory and the doctrine are essentially identical in the recognition of law. Both affirm law, its unchangeableness, its superiority to all arbitrary interference. But because the theory affirms not only law but a source of law, it is stigmatized and rejected by M. Comte. He who sees no discrepancies between spontaneity and law seeks to establish the widest possible divergence between necessity and will. Yet whence does M. Comte derive this conception of necessity? Not from the theory of chance for chance presents the notion only of vague, desultory, and un-

stable phenomena. Not from spontaneity, even if conceived as different from chance, for spontaneity is as fluctuating, variable, and uncertain as the diverse nature of the objects supposed to possess this self-motive power. Not from law, for we know law only under two generic forms, those of human and natural law, of which the former by the acknowledgment of all and the latter by the admission of M. Comte do not supply the idea of necessity. Human law created by and dependent upon the human will partakes of the fluctuations of its source and is enacted, modified, and annulled according to its varying determinations. Human law then does not afford the idea of necessity. In like manner natural law does not, at least according to M. Comte, in itself include that idea, for if it did it would exclude all those imperfections, irregularities, and counteractions, on which he, a firm believer in law, frequently and largely insists. He teaches the reality of law, and the reality also of deviations from law that are inconsistent with the idea, at least in his mind, of its inherent necessity. Natural law then has not furnished him with the idea of necessity, and the question still recurs whence that idea proceeds.

The fact seems to be that we acquire the idea of necessity only when, passing through the seeming vagaries of chance we ascend to the higher conception of law, and passing through the seeming contradictions of law we ascend to the higher conception of a lawgiver, an intelligent first cause, a providential ruler, a necessary being, and returning on our steps from that central and generative idea, ascribe the necessity which belongs primarily to his nature to the laws which are

the expression of his perfect and necessary will. As M. Comte has borrowed the hypothesis of spontaneity from the theory of chance which he entirely rejects, so he has borrowed the hypothesis of necessity from the theory of will which he equally repudiates, and he amalgamates them into a system of philosophy which is radically alien to both, a philosophy which affirms law in opposition to chance, and law without a God in opposition to theism.

In illustration of the virtual struggle in M. Comte's mind and writings between a spontaneity which is not to be distinguished from chance and leads to change, and a necessity which is opposed to all chance and all change, reference may be made to the passages already cited (pp. 30-36) in which he asserts the existence of mal-arrangement in the normal order of the heavenly bodies and mal-organization in the normal structure of living beings, and in which he also complains of the obstructions that war and opinion oppose to the normal movement of society ; whereas it seems obvious that under a system of universal law such as he advocates the alleged celestial mal-arrangement and animal mal-organization, obstructive war and anarchical opinion, must with all other phenomena be themselves normal and necessary. This state of mind appears more or less distinctly in other passages. Thus in treating of astronomy he considers that the general result of the study of the perturbations belonging to our system has been irrefutably to establish the fundamental stability of our world, but to this conclusion he adds qualifications which seem to imply a temporary forgetfulness of his own doctrine of necessary law, for he says that this conclusion has been

established only in reference to all stars of some importance and in reference even to them only when considered under all essential relations, which leaves the reader to suppose that this fundamental stability does not exist in reference to the unessential relations of important stars or to any of the relations of unimportant stars.* Strictly, under a system of necessary law, there can be no perturbations. If the supposed perturbations are the effects of the operation of necessary law, then they cease to be perturbations. If they occur beyond the pale of necessary law, then they so far disprove its existence. There can be no doubt however that M. Comte speaks of perturbations *as they appear to us* without denying that they are the effects of law, and in like manner when he speaks of the fundamental stability of our world as having been established only in reference to stars of importance, he has in view our imperfect acquaintance with bodies of inferior importance such as asteroids and comets without questioning that they also are amenable to law. But this explanation is scarcely admissible when he excepts from the affirmation of fundamental stability the unessential relations of important stars, since under a system of necessary law, it is impossible to draw a line of distinction between essential and unessential relations. Are essential relations, according to M. Comte, subject to necessity, unessential relations to spontaneity? The former to law, the latter to chance?

Again, in another passage, M. Comte affirms that the rational conception of the phenomena of human society

* "Le résultat général de l'étude des perturbations a été d'établir de la manière la plus irrécusable la stabilité fondamentale de notre monde relativement à tous les astres de quelque importance, considérés sous tous les rapports essentiels." *Philosophie Positive*, ii. p. 337.

is possible only on the assumption of the principal astronomical laws ; that if the various astronomical elements of our planet, such as its distance from the sun, the obliquity of the ecliptic, &c. experienced any considerable changes, our social development would be perceptibly influenced by them, and if the alterations were carried too far that development would become even impossible ; and that the irregularities (*dérangemens*) actually found to exist in our solar system are proved to be, not indefinite variations, but gradual and very limited oscillations round a mean condition which is necessarily invariable.* These propositions are not disputed or disputable ; but admitting what is here truly affirmed that the rational conception of the phenomena of human society is possible only on the assumption of the principal astronomical laws, let it also be asked what is requisite to the rational conception of that invariable necessity which is simultaneously asserted. An invariable necessity is not only inconsistent with indefinite variations but with all variations whatsoever, even with those derangements which science reduces to gradual and very limited oscillations round a mean condition.

* " Même les phénomènes relatifs au développement des sociétés humaines ne sauraient être conçus rationnellement sans la considération préalable des principales lois astronomiques. On pourra le sentir aisément que si les divers éléments astronomiques de notre planète comme sa distance au soleil et par suite la durée de l'année, l'obliquité de l'écliptique &c. éprouaient quelques changemens importans, ce qui en astronomie n'aurait guère d'autre effet que de modifier quelques co-efficiens, notre développement social en serait sans doute notablement affecté, et deviendrait même impossible si ces altérations étaient poussées trop loin. Je ne crains nullement de mériter le reproche d'exagération en établissant à ce sujet que la physique sociale n'était point une science possible tant que les géomètres n'avaient pas démontré comme résultat général de la mécanique céleste que les dérangemens de notre système solaire ne sauraient jamais être que des oscillations graduelles et très-limitées autour d'un état moyen nécessairement invariable. Comment espérerait-on en effet former avec certitude quelques lois naturelles relativement aux phénomènes sociaux, si les données astronomiques sous l'empire desquelles ils s'accomplissent pouvaient comporter des variations indéfinies." Philosophie Positive, ii. p. 38.

Derangements are irregularities, anomalies, violations of law, and so far as they exist they annul law. On the other hand an invariable necessity is a necessity which does not and cannot change; and if such a necessity is compatible with such derangements as are reducible by science but forbids indefinite variations, where is the line of demarcation to be drawn between the two, and why may not the one pass into the other? Why may not gradual and very limited oscillations be expanded into indefinite variations, or indefinite variations contracted into gradual and very limited oscillations round a mean condition, and in either case what becomes of the invariable necessity? We have here another example of the apparent confusion of ideas existing in M. Comte's mind on this subject, a confusion arising from the vain attempt to combine in the same system of philosophic thought the irreconcilable elements of an invariable necessity and a variable spontaneity as ultimate principles.

The passages of this description that would admit and require comment, are numerous. Thus in one already produced (p. 372) a contrast is drawn between a social movement spontaneous and regulated by natural laws constituting necessarily the true scientific basis of human dignity, and a social automatism passively directed by the absolute and arbitrary supremacy either of providence or of the human legislator. But if the social movement is spontaneous, it is a law to itself and transcends all law except its own inherent tendencies. If the social movement is regulated by natural laws which exist and operate necessarily, then it is not spontaneous and self-impulsive. Again, if spontaneous, the idea of a providence must of course be excluded, but why exclude that of human

legislation which on that supposition must be a part, and a most important part, of the spontaneous action of society. If the social movement is both spontaneous and regulated by law, where after the rejection of a providence can M. Comte find the link which combines law and spontaneity in friendly union ; the spontaneity which is peculiar to each individual and the law which is common to all ?

In another place he says that with respect to all phenomena whatsoever positive philosophy, in conformity with its fundamental principle of the conditions of existence, always teaches that in their relations to man, there is spontaneously established, in accordance with their natural laws, a certain necessary order ; but without ever pretending that this order does not present under this aspect grave and numerous inconveniences, subject in a certain degree to modification by a wise human intervention.* Here we have more than the usual jumble of necessary order spontaneously established according to natural law, this order producing grave and numerous inconveniences, and these inconveniences in part remediable and in part not remediable by human intervention. But if the order of society is established spontaneously, then its inconveniences, however grave and numerous, must also be spontaneous, and then also the wise human intervention which is to remedy the foolish vagaries of spontaneously

* " Envers des phénomènes quelconques, la philosophie positive d'après son principe fondamentale des conditions d'existence enseigne toujours que dans leurs relations à l'homme, il s'établit spontanément, d'après leurs lois naturelles, un certain ordre nécessaire ; mais sans jamais prétendre que cet ordre ne présente point sous cet aspect, de graves et nombreux inconvénients, modifiables à un certain degré par une sage intervention humaine." Philosophie Positive, iv. p. 342,

established order must itself be spontaneous. Spontaneous wisdom will remedy the evils of spontaneous folly and there will thus be established the condition of a perpetual alternation between spontaneous retrogression and spontaneous progression which is chance and is wholly inconsistent with the uniform and determinate course of natural law and necessary order. If on the other hand the order of society is necessary, then how can a necessary order require modifications? How can these modifications of a necessary order be produced by a wise human intervention when human as well as superhuman influence in regulating the social movement is expressly denied? What is the degree to which the inconveniences of necessary order are remediable? By whom, when, where, how has that degree been ascertained? Why may it not be exceeded? And to what system of being, necessary or spontaneous, does the residuum belong consisting of those inconveniences that are not remediable by a wise human intervention?

Once more, M. Comte tells us that the fundamental evolution of humanity must be so much the more necessarily subjected to imperious natural laws in proportion as it embraces more complex phenomena in which the irregularities proceeding from individual influences must to a greater extent be naturally effaced.* Analyze the propositions contained in this statement and see to what they conduct. It is affirmed that the fundamental evolution of humanity is necessarily subjected to imperious

* "L'évolution fondamentale de l'humanité, comparativement appréciée sous les divers aspects sociaux, doit être par la nature du sujet, d'autant plus nécessairement assujettie à d'impérieuses lois naturelles qu'elle concerne des phénomènes plus composés, où les irrégularités provenues d'influences individuelles quelconques doivent naturellement s'effacer davantage." *Philosophie Positive*, iv. p. 377.

natural laws; that however strong that necessity and however imperious those laws, irregularities do exist under them proceeding from individual influences which for the time are stronger and more imperious; that those individual influences are strongest, the consequent irregularities gravest and most numerous, necessity and law weakest, when phenomena are simple, and that when phenomena are complex, necessity and law are more fully re-instated in their functions and irregularities comparatively disappear with the individual influences which produced them. There are then degrees of necessity. Necessity, which with M. Comte is at one time something fixed, invariable, and imperious, is at another something vague, vacillating, and changeable. In other words, necessity is chance, and chance is necessity according to circumstances.

Finally, M. Comte not only confounds necessity and spontaneity, law and chance, but teaches two kinds of necessity, sometimes in friendly co-operation, at other times in irresistible antagonism, either physical or moral. Thus in one instance a double moral necessity is represented as contributing to the same result, the perpetuation of error and illusion. In another instance he describes humanity, at the commencement of its career, as politically and logically bound in a radically vicious circle by the complete opposition of two necessities equally irresistible.* But the most striking example of

* "La cause essentielle de ces modifications plus étendues résultant du même principe qui détermine une plus grande complication, savoir, la généralité décroissante des divers ordres de phénomènes, elle contribue inévitablement à perpétuer sur la puissance effective de l'homme une aberration primitive ainsi devenue beaucoup plus difficile à démêler et par suite plus excusable. Cette double nécessité a dû spontanément affecter davantage l'étude des phénomènes sociaux qui devaient à ce titre demeurer plus longtemps et plus pro-

this confusion of idea is that in which the opposition between the two necessities does not appear to have presented itself to his own mind. Thus, we have already seen (pp. 406, 407) that he considers the general result of the study of the perturbations existing in the solar system has been irrefutably to establish the fundamental stability of our world and to show that they can never be more than gradual and very limited oscillations round a mean condition necessarily invariable. This is as strong language as can well be employed to affirm the stability of our system. Notwithstanding this however M. Comte anticipates a far distant future when the different bodies that compose that system, in consequence of the continual resistance of the general medium in which they move, will necessarily and inevitably be re-absorbed into the sun from which it is probable they originally issued and which will afterwards again throw off fragments of its own mass to constitute new planets and a new system, so that the previously alleged fundamental and necessary stability of our system has relation only to perturbations properly so called.* The facts of the case are not under discussion. The sole question here relates to the theory

fondement que tous les autres le sujet de semblables illusions." Philosophie Positive, iv. p. 304.—"Voilà donc, sous un nouvel aspect, l'humanité à son origine encore enchaînée politiquement, comme elle l'était déjà logiquement, dans un cercle radicalement vicieux par l'opposition totale de deux nécessités également irrésistibles." p. 630.

* "Dans un avenir jusqu'ici complètement inassignable, quoique nous puissions assurer qu'il est infiniment lointain, tous les astres de notre monde doivent nécessairement finir par se réunir à la masse solaire d'où ils ont probablement émanés, en sorte que la stabilité du système est simplement relative aux perturbations proprement dites." ii. p. 341.—"Nous savons, en effet, que par la seule résistance continue du milieu général, notre monde doit, à la longue, se réunir inévitablement à la masse solaire d'où il est émané, jusqu'à ce qu'une nouvelle dilatation de cette masse vienne, dans l'immensité des temps futurs, organiser, de la même manière, un monde nouveau destiné à fournir une carrière analogue." p. 333.

by which they are to be explained. According to M. Comte, then, there are perturbations that do, and there are perturbations that do not, affect the stability of our system. The perturbations that do not affect its stability are oscillations round a mean condition necessarily invariable. The perturbations that do affect its stability, necessarily, inevitably subvert that mean condition which is necessarily invariable and drag the whole system into a common ruin. As, according to this speculation, there are two classes of perturbations, one class which does, and another class which does not, threaten the stability of our system, so according to the same speculation, there are two kinds of necessity, one kind which insures the stability, and another which insures the destruction, of our system; one kind which creates a mean condition necessarily invariable, and another which necessarily annihilates that necessarily invariable mean condition. How are these two kinds of necessity reconcilable with each other? How distinguishable from each other? What is a necessity that over-rides another necessity? What is a necessity that is not necessary?

Such are the hypotheses of spontaneity and necessity—each inconsistent with itself and with the other, both of them gratuitous, unverified, and unverifiable—which a pretentious and spurious positivism proposes to substitute for the sublime, well-established, and practical truths of a supreme will, of providential laws, and of wise and beneficent ends in nature, in life, and in history.



APPENDIX.

ON THE DOCTRINE AND LAW OF CAUSAL RESEMBLANCE.

THE doctrine of causal resemblance teaches that the cause is like the effect, and that from the nature of the effect the nature of the cause may be inferred. The law of causal resemblance explains the limitations that restrict this inference, or the conditions under which this resemblance is necessary and those under which it is contingent.

Spinoza in the fourth and fifth axioms and in the third proposition contained in the first part *de Deo* of his treatise on Ethics, maintains the doctrine of causal resemblance:—
“Axiom IV. *Effectûs cognitio a cognitione causæ dependet et eandem involvit.* Axiom V. *Quæ nihil commune cum se invicem habent, etiâ per se invicem intelligi non possunt, sive conceptus unius alterius conceptum non involvit.* Propos. III. *Quæ res nihil commune inter se habent, earum una alterius causa esse non potest. Demonstr. Si nihil commune cum se invicem habent, ergo (per axiom 5) nec per se invicem possunt intelligi, adeoque (per axiom 4) una alterius causa esse non potest.*”

Coleridge in his *Biographia Literaria* (i. 8) as quoted by Mr. Mill in his *System of Logic* (ii. 383) affirms as an “evident truth” that “the law of causality holds only between homogeneous things, *i.e.* things having some common property,” and therefore “cannot extend from one world into another; its opposite.”

M. Victor Cousin, as quoted by the same author, in the last of his lectures on Locke enunciates this maxim :—"Tout ce qui est vrai de l'effet est vrai de la cause."

Descartes, also quoted by Mr. Mill, says that the efficient cause must at least have all the perfections of the effect, and for this reason :—"Si enim ponamus aliquid in ideâ reperiri quod non fuerit in ejus causâ, hoc igitur habet a nihilo."

Sherlock in his Discourse on Providence (p. 13) says : "As it is natural to the reason of mankind to conclude the cause from the effect, so is it to learn the nature of the cause from the nature of the effect; for whatever is in the effect must be either specifically or virtually in the cause; for whatever is in the effect which is not in the cause, that has no cause, for nothing can be a cause of that which it is not itself."

Mr. Whewell in his Philosophy of the Inductive Sciences (ii. 583) says :—"Though the supreme cause must be inconceivably different from all subordinate causes and immeasurably elevated above them all, it must still include in itself all that is essential to each of them by virtue of that circumstance that it is the cause of their causality."

Other authorities might be adduced in support of the doctrine of causal resemblance; but these are sufficient to show that it has been held by profound and independent thinkers, and to afford some presumption that it contains an element of truth. It is remarkable, however, that it is delivered in general and unqualified terms, and that no attempt is made to answer objections or to explain the cases that contradict or seem to contradict the doctrine.

Mr. Mill, in opposition to these authorities, denies the doctrine. He admits that "experience does afford a certain degree of countenance to the assumption"—"that the conditions of a phenomenon must, or at least probably will, resemble the phenomenon itself."—"The cause does in very many cases resemble its effect; like produces like." But he holds it to be a fallacy and prejudice "that causes must *necessarily* resemble their effects, and that like could *only* be produced by like." He maintains

“that the very reverse might be the fact; that there is nothing impossible in the supposition that no one property which is true of the effect might be true of the cause.” He refers with approbation to the works of Dr. Reid, who employed “a world of argument and illustration to familiarize people with the truth that the sensations or impressions on our minds need not necessarily be copies of or have any resemblance to the causes which produce them; in opposition to the natural prejudice which led man to assimilate the action of bodies upon our senses, and through them upon our minds, to the transfer of a given form from one object to another by actual moulding.” The just conclusion from Coleridge’s doctrine he considers to be that “as mind and matter have no common property, mind cannot act upon matter, nor matter upon mind.” The inevitable consequence of Spinoza’s doctrine, according to Mr. Mill, is that to which Spinoza pursued it, “the materiality of God;” and he travesties the reasoning of Descartes by the parody “that if there be pepper in the soup, there must be pepper in the cook who made it, since otherwise the pepper would be without a cause.”

Mr. Whewell does not seem to hold the doctrine very firmly, for in his *Bridgewater Treatise* (p. 360) we have the following passage: “We are led to consider the divine being as the *author of the laws* of chemical, of physical, and of mechanical action, and of such other laws as make matter what it is; and this is a view which no analogy of human inventions, no knowledge of human powers, at all assists to embody or understand. Science, therefore, while it discloses the mode of instrumentality employed by the Deity, convinces us more effectually than ever of the impossibility of conceiving of God’s actions by assimilating them to our own.” The former quotation from the *Philosophy of the Inductive Sciences* amounts to this, that what is true of the effect is, in the language of Cousin, true also of the cause. The present quotation seems to shrink from this doctrine and to admit of the interpretation that what is true of the effect is *not* true of the cause, probably for the purpose of escaping from the conse-

quence charged upon the doctrine of Spinoza, Descartes, Coleridge, and Cousin, that God is material.

It is evident, however, that this consequence is not avoided by first employing the doctrine of causal resemblance to establish the existence of a supreme cause which must include in itself all that is essential to all other causes since it is the cause of their causality, and then by forbidding us to assimilate God's actions to our own, as if he included in himself what is essential to the laws of chemical, of physical, and of mechanical action, and of such other laws as make matter what it is. The doctrine must be accepted as a whole or rejected as a whole; or if accepted in part and rejected in part, that is, if applied to one class and not to another class of phenomena, some adequate reason must be assigned for drawing the line between the two classes. A blind and arbitrary *dictum* that the supreme cause does resemble moral and intellectual effects, and does *not* resemble chemical, physical, and mechanical effects, is what religion does not require or sanction and philosophy does not tolerate.

It is still more difficult to reconcile Mr. Mill's statements on this subject with each other. He accumulates a series of instances in which the cause resembles the effect, and which afford a certain degree of countenance to the doctrine; and then to justify his denial of the doctrine he cites various abuses to which it has given rise, and various cases of positive dissimilarity between cause and effect. The obvious remark here is, that the abuses are fallacies which are rightly exposed, and that the dissimilarities which he seeks to establish may all exist; but the instances of similarity which Mr. Mill has himself adduced are not less indisputable, and what is needed for a just and comprehensive view of the subject is some conception, theory, or law which shall form a point of union, a principle of conciliation, between the acknowledged similarities and dissimilarities. This Mr. Mill does not attempt to furnish. He does not even appear to perceive the want of it. He is content to rest his denial of the doctrine of causal resemblance upon the instances of dissimilarity without explaining or seeking to explain the striking

cases of similarity between cause and effect which he has himself enumerated.

The particular instances of similarity and of dissimilarity between cause and effect will come hereafter to be considered. All that is necessary to be said now is that they exist. Is there no means of bringing both classes of phenomena under some defined law? It is not clear that this is possible, but a search for some such law is at least a legitimate object of philosophy. It is certainly an opprobrium to find one class of philosophers broadly affirming and another class broadly denying the resemblance of cause to effect, without either endeavouring to account for opposing instances.

Since there are opposing instances, that is, instances both of similarity and of dissimilarity between cause and effect, it would seem that the law which determines the one and the other must be sought in a just discrimination between different causes and their respective effects, and that with this view a classification of all causes and effects should be attempted. The most general and comprehensive classification I can think of is in the physical, intellectual, and moral order; that is, every cause and every effect may be regarded either as physical, intellectual, or moral, which will give three classes of causes and nine classes of effects, as follows:—

I. Physical Cause.

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|---------------------|-------------------------|------------------|
| 1. Physical Effect. | 2. Intellectual Effect. | 3. Moral Effect. |
|---------------------|-------------------------|------------------|

II. Intellectual Cause.

- | | | |
|---------------------|-------------------------|------------------|
| 1. Physical Effect. | 2. Intellectual Effect. | 3. Moral Effect. |
|---------------------|-------------------------|------------------|

III. Moral Cause.

- | | | |
|---------------------|-------------------------|------------------|
| 1. Physical Effect. | 2. Intellectual Effect. | 3. Moral Effect. |
|---------------------|-------------------------|------------------|

If under these nine subdivisions we could bring all the known effects of all known causes we might be able to ascertain the principle that determines the similarity or the dissimilarity of the one to the other. But this is impossible, and every one therefore must select for himself some individual causes physical, intellectual, and moral, trace all the known and probable effects of each, and from a comparison of the whole draw such conclu-

sions as the actual relations of the phenomena may suggest. The physical cause, the effects of which I shall briefly indicate for the purpose of illustration, is a storm at sea; the intellectual cause, education, understood of course in the limited sense of the education of the intellect; and the moral cause, the virtue of temperance, by which is meant a self-imposed restraint, from moral motives, upon all the appetites and passions. In each of these cases what is called a cause is in fact a cluster or collection of causes, but this does not create any difficulty or confusion, for in each case all the causes that contribute to make up the so-called cause are homogeneous; and in like manner what in each case is called an effect is in fact a cluster or collection of effects, but of homogeneous effects, so that for the present purpose each group of causes or of effects may be legitimately regarded as one cause or one effect.

When the unknown law of known phenomena is sought, a hypothesis is framed, that is, the supposition of a law is made, to be verified by its agreement or to be falsified by its disagreement with the known phenomena. In the present case, three hypotheses are suggested by the classification of causes and effects that has been adopted.

First Hypothesis:—The resemblance of the cause to the effect is determined by the superiority of the effect to the cause in the physical, intellectual, and moral order. In this sense the intellectual effect is superior to the physical cause, and the moral effect is superior to the physical and to the intellectual causes.

Second Hypothesis:—The resemblance of the cause to the effect is determined by the inferiority of the effect to the cause in the physical, intellectual, and moral order. In this sense the intellectual effect is inferior to the moral cause, and the physical effect is inferior to the intellectual and to the moral causes.

Third Hypothesis:—The resemblance of the cause to the effect is determined by the equality of the effect to the cause in the physical, intellectual, and moral order. In this sense the physical effect is equal to the physical cause, the intellectual

effect to the intellectual cause, the moral effect to the moral cause. The equality is identity in kind or quality, not in quantity or degree.

Let us now endeavour to test these different hypotheses by tracing the similarities and dissimilarities between causes and effects in the phenomena of nature and life exhibited in a storm at sea, in the education of the intellect, and in the virtue of temperance.

I. 1. **Physical Cause: Physical Effect.** In a storm at sea the wind raises the waves; the waves dash against the ship; the lightning shatters the masts; and wind, water, and fire produce a total shipwreck. The storm is an expression of the physical force that resides in nature, in the laws of nature, or in the author of nature: the ship is an expression of the physical force that resides in man. Both are expressions of physical force. The shipwreck is, not the production, but the destruction of a less physical force by a greater physical force. From the nature of the force destroyed we conclude to the nature of the destroying force, that is, we argue from effect to cause: we infer the resemblance of the cause to the effect. Nothing but a superior physical force could have destroyed the ship.

I. 2. **Physical Cause: Intellectual Effect.** Let it be assumed that the intellectual effect of a storm at sea is on the one hand to unman a portion of the crew and passengers, and on the other hand to brace the courage of the rest to a higher pitch according to the extremity of the danger. It is impossible in either case to perceive any resemblance of the cause to the effect. Neither pusillanimity nor fortitude would suggest a physical cause.

I. 3. **Physical Cause: Moral Effect.** Let it be assumed that the moral effect of a storm at sea is to produce the exhibition by some of selfishness and by others of self-sacrifice, the former struggling only for their own safety, the latter devoting their efforts to the preservation of others. There is no resemblance of the cause to the effect. Neither selfishness nor self-sacrifice would suggest a physical cause.

II. 1. **Intellectual Cause: Physical Effect.** The physical effect

of intellectual education may be supposed to be the production of a feeble bodily frame from excessive application to study, in which there is no resemblance of the cause to the effect.

II. 2. Intellectual Cause: Intellectual Effect. The intellectual effect of intellectual education may be supposed to be a high development of the intellectual powers. The nature of the effect conducts to the nature of the cause. We infer the nature of the cause from the nature of the effect. The cause resembles the effect.

II. 3. Intellectual Cause: Moral Effect. The moral effect of intellectual culture may be either by hardening the mind into rigid forms of thought to deaden it to moral perceptions, or by enlarging the mind to enable it clearly to perceive and intelligently to accept and embrace moral distinctions and relations. In both instances the cause has a certain measure of resemblance to the effect, for on the one hand it seems natural that exclusive addiction to intellectual culture should alienate the mind from all other and even from moral culture, and on the other it seems equally natural that exclusive addiction to intellectual culture should, with other intellectual perceptions, communicate the intellectual perception of moral distinctions and relations and of their high value and dignity. On these grounds the cause may be held to resemble both effects, and yet since the cause is one and the effects different and opposite, the resemblance must be held to be only contingent, not necessary.

III. 1. Moral Cause: Physical Effect. The physical effect of temperance may be assumed to be a confirmed state of bodily health. In this case the cause has a certain degree of resemblance to the effect, since although the cause is wholly moral and the effect wholly physical, yet the moral cause operates through the due subjection of the physical appetites and passions, and the due subjection of physical appetites and passions is at least one condition of bodily health and is indeed a constituent part of what constitutes bodily health. The cause however may exist without the effect and the effect without the cause. It is supposable for instance that in a given individual at a given period

of life the cause, temperance, may be in full operation, but in consequence of hereditary disease or early imprudence or other counteracting influences, the effect, bodily health, may not follow. Or it is supposable that good bodily health may be enjoyed in virtue of an originally strong constitution, notwithstanding considerable irregularity of living. The resemblance therefore of the cause to the effect, to whatever extent it may be alleged to exist, is contingent, not necessary.

III. 2. Moral Cause: Intellectual Effect. The intellectual effect of temperance may be assumed to be the production of calm, clear, and penetrating habits of thought. Here there is a still greater resemblance of the cause to the effect, since although the cause is wholly moral and the effect wholly intellectual; yet this moral cause produces this intellectual effect really through the due subjection of that intellectual egotism, pride, and self-sufficiency which are some of the greatest hindrances to the formation of habits of philosophic thought. Indeed the subjection of these intellectual vices may be said to constitute the indispensable negative preliminary condition to the positive possession of a habit of philosophic thought and to be a part of that habit. Here also, however, the cause may exist without the effect and the effect without the cause. It is supposable for instance that the cause, temperance, negatively a freedom from intellectual pride, affirmatively a modest intellectual self-appreciation, may exist, but that from defect of natural capacity, or from mistakes in early education, or from hurtful social influences, or from similar obstructions, the perceptions of the intellect may be dull and obscure. Or it is supposable that those perceptions may be calm, clear, and determinate in virtue of a high intellectual capacity, even although that capacity may not be under strict moral control. The resemblance therefore of the cause to the effect, however close it may be or appear to be, is contingent, not necessary.

III. 3. Moral Cause: Moral Effect. The moral effect of temperance is habitual purity in thought, word, and act. Here, as in I. 1 and II. 2, we infer the nature of the cause from the nature

of the effect. The cause resembles the effect, and the resemblance is so close as to amount to identity. We cannot separate in conception the one from the other. The cause is the effect, the effect is the cause.

Let us further test these hypotheses by examining the similarities and dissimilarities instanced by Mr. Mill between causes and effects. All consideration of abusive applications of the doctrine of causal resemblance which have been properly cited as examples of *à priori* fallacy or natural prejudice—such as Harvey's doctrine of nervous vibrations, the Epicurean doctrine of *species sensibiles*, the medical doctrine of signatures, and the doctrine of the planetary influences being analogous to their visible peculiarities—may here be summarily dismissed. In such cases either the effects or the causes are imaginary, and no resemblance can be proved or disproved between an imaginary cause and a real effect or between a real cause and an imaginary effect. We are now solely concerned with positive phenomena, with real causes and with real effects.

I. *Cases of similarity.* 1. "Forms actually moulded upon one another, as impressions on wax and the like." In these Mr. Mill admits that "the closest resemblance between the effect and its cause is the very law of the phenomena" (ii. 377). This case comes under the Formula I. 1, or Physical cause: Physical effect.

2. "All motion tends to continue itself with its own velocity and in its own original direction" (ii. 377). Formula I. 1, or Physical cause: Physical effect.

3. "The motion of one body tends to set others in motion." This, Mr. Mill admits, is "the most common of the modes in which the motions of bodies originate." (ii. 377). Formula I. 1, or Physical cause: Physical effect.

4. "Contagion" (ii. 377). By contagion I understand the communication of disease by contact mediate or immediate, but Mr. Mill has not explained in what way it affords an illustration of the resemblance of cause to effect. However explained there seem to be grounds only for the Formula I. 1, or Physical cause: Physical effect.

5. "Fermentation" (ii. 377). The same remark applies to fermentation. Formula I. 1, Physical cause: Physical effect.

6. "The production of effects by the growth or expansion of a germ or rudiment resembling on a smaller scale the completed phenomenon, as in the growth of a plant from an embryo, that embryo itself deriving its origin from another plant of the same kind" (ii. 377). There is here one kind or form of life, vegetable life, the life of growth, but not the life of sensation or intelligence, and we must therefore describe it as a case of Formula I. 1, or Physical cause: Physical effect.

7. "The production of effects by the growth or expansion of a germ or rudiment resembling on a smaller scale the completed phenomenon, as in the growth of an animal from an embryo, that embryo itself deriving its origin from another animal of the same kind" (ii. 377). This case admits of three subdivisions, according to the aspect in which the nature of the animal is regarded. (a) Every animal has a life analagous to that of a plant. The resemblance of cause to effect extends to form, structure, and growth, and the formula in this view is, I. 1, Physical cause: Physical effect. (b) Every animal as such has a life of sensation peculiar to itself. The resemblance of cause to effect includes intelligence, and the formula in this view is, II. 2, or Intellectual cause: Intellectual effect. (c) Man, at the head of the animal world, has not only a life of growth and a life of sensation or intelligence, but also a moral life. The resemblance of cause to effect extends to moral capacity, the capacity for apprehending moral distinctions, obeying moral law, and aspiring to moral excellence, and the formula in this view is, III. 3, or Moral cause: Moral effect.

8. "The thoughts or reminiscences, which are effects of our past sensations, resemble those sensations" (ii. 377). Formula II. 2, Intellectual cause: Intellectual effect.

9. "Feelings produce similar feelings by way of sympathy" (ii. 377). Formula II. 2, Intellectual cause: Intellectual effect.

10. "Acts produce similar acts by involuntary imitation" (ii. 377). Acts of involuntary imitation may be either (a) mere

physical acts, in which case the formula is, I. 1, Physical cause: Physical effect; or (b) intellectual acts, in which case the formula is, II. 2. Intellectual cause: Intellectual effect.

11. "Acts produce similar acts by voluntary imitation" (ii. 377). Formula III. 3, Moral cause: Moral effect.

II. *Cases of dissimilarity.* 1. "An east-wind is not like the feeling of cold" (i. 79). Formula I. 2, Physical cause: Intellectual effect.

2. "Nor is heat like the steam of boiling water" (i. 79). This seems a hasty assertion. Do we know what heat is? If we do not, how can we affirm what it is like, or what it is not like? If we do know, what is it? Is it a thing, a substance? Or is it a state or condition of a thing or substance, viz. an excited state or condition of the molecules composing a substance? The latter appears to be the conclusion at which science has arrived, and if this conclusion is correct then heat *is* like the steam of boiling water. The excited molecular condition of the one substance produces an excited molecular condition of the other substance. From the effect, the excited molecular condition of the latter, we infer the cause, the excited molecular condition of the former. Formula I. 1, Physical cause: Physical effect.

3. "Why, then, should matter resemble our sensations?" (i. 79). That is, Mr. Mill interrogatively affirms that matter does not resemble our sensations. But he also says (i. 81), that we are and must always remain entirely in the dark respecting the inmost nature of matter. How, then, can he affirm that it does not resemble our sensations, when he confessedly knows nothing about it whatsoever, except that it is the mysterious something which excites the mind to feel? Assuming the alleged unlikeness, the formula applicable is, I. 2, Physical cause: Intellectual effect.

4. "Why should the inmost nature of fire or water resemble the impressions made by these objects upon our senses?" (i. 80). That is, Mr. Mill interrogatively affirms that the inmost nature of fire or water does not resemble those impressions, and at the

same time avows his utter ignorance of that inmost nature. Assuming the alleged unlikeness, the formula applicable is, I. 2, Physical cause : Intellectual effect.

5. "It was long thought that nothing (of a physical nature at least) could account for motion except previous motion; the impulse or impact of some other body. It was very long before the scientific world could prevail upon itself to admit attraction and repulsion (*i.e.* spontaneous tendencies of particles to approach or recede from one another) as ultimate laws, no more requiring to be accounted for than impulse itself, if indeed the latter were not in truth resolvable into the former" (ii. 379). The amount of this is that attraction and repulsion or the spontaneous tendencies to motion are the causes of motion and do not resemble motion. Remark here (a) that if motion is not caused but spontaneous, this is not a denial of causal resemblance but a denial of causation. The former, not the latter, is the question under consideration. There can be no question of the resemblance of the cause to the effect when the effect is assumed to be uncaused or spontaneous. (b) Are not attraction and repulsion *forms* of motion requiring themselves to be explained as much as those forms of motion which originate from impulse or impact? (c) If the particles of matter have spontaneous tendencies to approach or recede from one another, then those spontaneous tendencies are either subject to law or they are not. If they are not subject to law, then they are subject to chance, and there is an end to all search into effects and causes and the resemblance of causes to effects. (d) If those spontaneous tendencies are subject to law, then they are either voluntary or involuntary. If voluntary, then the particles possessing such voluntary spontaneous tendencies are intelligent, and resemble the *species sensibiles* of the Epicureans, which Mr. Mill condemns. (e) If those spontaneous tendencies are involuntary, then there must be some other source of motion than is to be found in the particles themselves. If that source is physical, as in the case of impulse or impact, then the formula is, I. 1, Physical cause : Physical effect.

If it is intellectual, then the formula is II. 1, Intellectual cause : Physical effect. Attraction and repulsion "no more require to be accounted for than impulse itself." But impulse does require to be accounted for either by a physical cause, as when one billiard-ball impels another ; or by an intellectual cause, as when a master orders a servant to deliver a message.

6. Mr. Mill parodies the reasoning of Descartes on the resemblance of the cause to the effect by saying, "that if there be pepper in the soup there must be pepper in the cook who made it, since otherwise the pepper would be without a cause" (ii. 385). The humour of this would be more enjoyed if there were justice in the representation of Descartes' argument. But that philosopher would not have affirmed that the cook was the efficient cause either of the pepper in the soup or of any other of its ingredients. The cook, he would have said, is the efficient cause of the mixture of the elements that go to make up the soup, and the degree of intelligence or want of intelligence which that mixture exhibits, forming either a good or a bad soup, must have existed in the cook. In such cases, from the measure of intelligence exhibited in the effect, we confidently infer the degree of intelligence possessed by the cause. On what other ground would Mr. Mill turn away a bad cook or retain a good one ? The formula in this case would be II. 2, Intellectual cause : Intellectual effect.

7. The Epicureans held that the pleasures of the mind had their origin from those of the body, and yet that the former were more valuable. Cicero in his second book *De Finibus* charges them with the inconsistency of this opinion, denying that the effect can surpass the cause ; while Mr. Mill pronounces Cicero's conclusion a fallacy. The fallacy is undoubted, for we all know that the pleasures of the body do give contingent satisfaction to the mind ; and the formula in such a case is I. 2, Physical cause : Intellectual effect.

8. Cicero illustrates the alleged inconsistency of the Epicurean opinion by saying that on the assumption of its truth a person who congratulates another on his good fortune would be happier

than the fortunate man himself :—*Ita fit ut gratulator lætior sit quam is cui gratulatur*—no absolute impossibility, says Mr. Mill, for a man's good fortune has been known to give more pleasure to others than it gave to the man himself. But the case is not analogous, for whether the pleasure is greater or less, here it is not the pleasure of the body that gives pleasure to the mind but it is the happiness of one mind that communicates happiness to another. The formula therefore is II. 2, Intellectual cause : Intellectual effect.

We have now to inquire which of the three hypotheses assumed makes the nearest approach to an explanation of the various cases that we have found to exist of the resemblance of cause to effect. It is evident that the same hypothesis by the negation of its conditions should afford an explanation of the cases of unlikeness.

I. The first hypothesis is that which seeks for an explanation of the resemblance of cause to effect in the superiority of the effect to the cause, in the physical, intellectual, and moral order. In one instance, viz. in the moral effect produced by intellectual education where the effect is superior to the cause it has been shown that the cause bears or may bear a certain degree of resemblance to the effect, but it is a contingent not a necessary or constant resemblance, for the effect may be wholly different and even opposite. In every other instance, as in the intellectual and moral effects of a storm at sea, there is a total absence of all resemblance. Several of Mr. Mill's cases of dissimilarity come under this head, as when he says that matter does not resemble our sensations ; that an east wind is not like the feeling of cold ; that the inmost nature of fire or water does not resemble the impressions which these objects make upon our senses ; and that, according to the Epicurean doctrine, the pleasures of the body produce the higher but dissimilar pleasures of the mind. The superiority then of the effect to the cause tends to produce and to prove, not similarity, but dissimilarity, of cause to effect ; and the first hypothesis may be pronounced untenable.

II. The second hypothesis is that which seeks for an explana-

tion of the resemblance of cause to effect in the inferiority of the effect to the cause, in the physical, intellectual, and moral order. In the physical and intellectual effects of temperance where the effects are inferior to the cause, the cause, it has been seen, may bear a resemblance to the effects, but the resemblance is not necessary, for the cause may exist without the effect and the effect without the cause. In the physical effects of an intellectual cause there is a total absence of resemblance, as where a feeble bodily frame is the result of excessive intellectual application, or the bodily movements of a servant follow the orders of his master. Thus the inferiority of the effect to the cause tends to produce and prove, not similarity, but dissimilarity of cause to effect; and the second hypothesis therefore may be pronounced also untenable.

III. The third hypothesis is that which seeks for an explanation of the resemblance of cause to effect in the equality of the effect to the cause in the physical, intellectual, and moral order. When we have negatived the two preceding hypotheses, the third is the only one that remains, for the negation of superiority and of inferiority is the negation of difference, and the negation of difference is the affirmation of identity, that is, identity of nature, of kind, of quality, as the ground or principle of causal resemblance; and the affirmation of identity of nature between cause and effect reduces the hypothesis almost to a mere truism, a truism however which appears to have escaped some of the most philosophical thinkers. In accordance with this principle we find that a physical cause necessarily produces a physical effect, and from the physical effect the physical cause is necessarily inferred; that an intellectual cause necessarily produces an intellectual effect, and that from the intellectual effect the intellectual cause is necessarily inferred; and that a moral cause necessarily produces a moral effect, and that from the moral effect the moral cause is necessarily inferred. Thus the physical effect of a shipwreck is produced by the physical force of the elements; intellectual power is the fruit of intellectual culture; and moral purity is the result of moral restraint, and from the nature of

each effect respectively we necessarily infer the nature of the cause. Nothing but physical force can produce a shipwreck; nothing but intellectual culture can give intellectual power; nothing but moral restraint can create moral purity. The nature of the effect is determined by the nature of the cause: the nature of the cause necessarily resembles the nature of the effect. All Mr. Mill's cases of similarity are naturally and easily brought under this hypothesis. They are instances, for the most part, of physical causes producing physical effects, less often of intellectual causes producing intellectual effects, and still less frequently of moral causes producing moral effects; but whether physical, intellectual, or moral, the cause resembles the effect. Even some of his supposed cases of dissimilarity come under this hypothesis as cases of similarity, for heat is like steam as being both physical objects, and both in a state of molecular agitation; the intelligence of the cook is measured by the intelligence with which he mixes the ingredients of his soup; and the happiness of a man who rejoices in the good fortune of his friend partakes of the nature of his friend's happiness.

That the resemblance of the physical cause to the physical effect, of the intellectual cause to the intellectual effect, of the moral cause to the moral effect, is an ultimate truth may be shown by a reference to the essential notes or characters by which Sir William Hamilton distinguishes our original from our derivative convictions. These are four. *First*, a conviction is original when it is incomprehensible, that is, when there is merely given us in consciousness that its object is, and when we are unable to comprehend through a higher notion or belief why or how it is. *Second*, a conviction is original when it is simple, not compound, not made up of or capable of being explicated into a plurality of cognitions or beliefs. *Third*, a conviction is original when it is necessary and universal. If necessary, then universal; if universal, then necessary. Universality is either absolute or relative. Relative universality indicates no more than custom and education. Absolute universality is that which exists independent of custom and education. To prove necessity the

universality must be absolute. Necessity also is of two kinds, that which respects truths of reason or intelligence, as the law of causality, the law of substance, &c.; and that which respects truths of fact as the practical belief in the externality of objects as opposed to the theoretical belief that they are only modes of mind or self. *Fourth*, a conviction is original when it is not capable of proof or disproof by higher evidence than itself.*

Apply these criteria to the resemblance of a physical cause to a physical effect, of an intellectual cause to an intellectual effect, of a moral cause to a moral effect; and let the physical example be the impression left by a seal, the intellectual example the resemblance of a reminiscence to a past sensation, and the moral example the voluntary imitation by one moral agent of the moral act of another; all taken from Mr. Mill's cases of similarity, and in the immediate view of which he denies that causes necessarily resemble their effects and that like can only be produced by like, and affirms that no one property which is true of the effect may be true of the cause. In each of these examples the resemblance of the cause to the effect or our perception of that resemblance is incomprehensible in the sense that its mode of production is irreducible to any higher notion or belief; simple, that is, undecomposable; necessary and universal, absolutely universal and therefore necessary, for it is not the result of custom and education, and necessary both as a truth of fact and a truth of reason; and finally, possessing the greatest evidence and certainty, for no reasoning can prove or is needed to prove it: it proves itself. In these and in all corresponding examples we infer with confidence that the cause necessarily resembles the effect, that like can be produced only by like, and that the property which is true of the effect must be true of the cause, conclusions directly contradictory of those which Mr. Mill assumes.

Apply the same criteria when cause and effect are unequal, that is, when the effect is either superior or inferior to the cause

* See Hamilton's Supplementary Dissertations to Reid's Collected Writings. Edinburgh, 1846. Note A, § iv. p. 754.

in the sense already explained; when, for instance, a physical cause produces an intellectual or moral effect, an intellectual cause produces a physical or moral effect, or a moral cause produces a physical or intellectual effect. Or apply, for the sake of brevity, the single criterion of necessity, the third of Sir W. Hamilton, to which Mr. Mill exclusively refers. Thus, when a storm at sea produces on the one hand unmanly terror and absorbing selfishness or on the other fortitude and self-sacrifice when the culture of the intellect produces on the one hand feeble bodily health and a hard intellectuality or on the other is found consistent with vigorous physical powers and with refined moral perceptions; and finally, when temperance produces on the one hand a hale condition of body and clear habits of thought, or on the other is found not incompatible with weak health and dull perceptions—in each of these contrasted cases the effect is not universal, for some are affected one way, some another, by the same cause. The effect not being universal is not necessary: it is not necessary and therefore is not universal.

The conclusion in favour of the third hypothesis is irresistible, viz. that the resemblance of the cause to the effect is determined by the equality of the effect to the cause, the equality meant being identity in kind, so that a physical effect is necessarily identical in kind with its physical cause, an intellectual effect with its intellectual cause, and a moral effect with its moral cause, and from a physical, intellectual, or moral effect respectively, we necessarily infer a physical, intellectual, or moral cause. This resemblance of cause and effect, as it is necessary in kind only, embraces a greater number of particulars in an ascending series.

1. Physical Cause: Physical Effect. (a) In a storm at sea, the cause is the physical force of the elements, the effect is a shipwreck, that is, the destruction of the product of human physical force. Force does not produce but overcomes or extinguishes force. This is the lowest form of resemblance consisting in the common physical nature of the force destroying and the force destroyed. This case from another point of view may be con-

sidered identical with the following. (b) When heat produces steam the effect is the transformation into vapour of the body, water, on which the heat acts. A shipwreck may also be considered as a transformation of the materials of which the ship is composed, for none of them is really lost; but the force embodied in the ship is destroyed, whereas in the production of steam by heat the force of the transformed or vaporised body is not lessened but increased, as may be shown by the explosion of the containing vessel. The disintegration of a ship by a storm may also be compared to the vaporisation of water by heat, but in the former case there is the loss, in the latter the acquisition, of force. In the former as well as in the latter case, the resemblance of cause to effect consists in the physical nature of both and in the molecular agitation of the particles composing both. (c) When a seal is impressed on wax, not only are both cause and effect physical but the configuration of the effect necessarily resembles the configuration of the cause, and the configuration of the cause may be certainly inferred from the configuration of the effect. (d) When particles combine to form crystals, the effects, the crystals, resemble their causes, the component particles, not only in their common physical nature and in their external configuration, but also in their internal structure. Particles of a given chemical constitution combine in one fixed form and constitute a similar substance. (e) When plant produces plant, the resemblance of cause to effect and the inference from the nature of the effect to the nature of the cause extend not only to the possession of a common physical nature and of a similar figure and structure, but also to the possession of a similar that is a vegetable life or the life of growth.

2. Intellectual Cause : Intellectual Effect. (a) When animal produces animal, the resemblance and the inference extend, in the lowest orders of animal life, not only to physical nature, figure, structure, and the life of growth, but also to the life of sensation or perception. (b) When animal produces animal, the resemblance and the inference extend, in the higher orders of animal life, not only to physical nature, figure, structure, the life

of growth, and the life of sensation, but also to the life of reason or intelligence.

3. Moral Cause : Moral Effect. When animal produces animal, the resemblance and the inference extend, in man the highest order of animal life, not only to physical nature, figure, structure, the life of growth, the life of sensation, and the life of intelligence, but also to the life which consists in the recognition of moral relations and in obedience to moral obligations.

Thus the resemblance strengthens as the scale rises; and as the scale rises, the basis extends.

In conclusion, it is necessary to consider two objections which Mr. Mill advances to the doctrine of causal resemblance, one to the form in which it is presented by Coleridge, and the other to that which it assumes in the writings of Spinoza.

1. It has been seen that the form in which Coleridge asserts the doctrine is that "the law of causality holds only between homogeneous things, *i.e.* things having some common property;" and hence Mr. Mill argues that "as mind and matter have no common property, mind cannot act upon matter, nor matter upon mind" (ii. 384). But we know that mind does act upon matter and matter upon mind, and therefore the doctrine which virtually includes the contradiction of a known fact must be a fallacy. It is admitted that Coleridge's affirmation of the doctrine is too unqualified, and hence he exposes himself to Mr. Mill's valid objection; but it is further maintained that Mr. Mill's negation of the doctrine is also too unqualified, and hence he exposes himself to an equally valid rejoinder. Mind does act upon matter and matter upon mind, but since in the former case the cause is intellectual and the effect physical and in the latter the cause is physical and the effect intellectual, in both cases cause and effect are unequal and heterogeneous and there is therefore either no resemblance of the cause to the effect, or if there is a resemblance it is a contingent not a necessary resemblance. If Coleridge had said that the law of *necessary* causality holds only between *homogeneous* things, and that a law of *contingent* causality holds between *heterogeneous* things, he would have affirmed the true

doctrine against which Mr. Mill's objection has no force. Mind may act upon matter or it may not. Matter may act upon mind or it may not. If either acts upon the other, the effect in different cases may be different and even opposite. The effect therefore is not universal. The causality is not necessary. The resemblance of the cause to the effect is not necessary. The inference from the effect to the cause is not necessary. But all this does not disprove the law of necessary causality between homogeneous things and the necessary resemblance between such causes and effects.

2. Spinoza's doctrine is, as Mr. Mill remarks, the original of Coleridge's. It is that, of two things which have nothing in common, one cannot be the cause of the other. "This proposition is proved" says Mr. Mill, "from two so-called axioms equally gratuitous with itself; but Spinoza, ever systematically consistent, pursued the doctrine to its inevitable consequence, the materiality of God" (ii. 384). This inevitable consequence then is, in the opinion of Mr. Mill, an insuperable objection to the doctrine of causal resemblance. Let it be assumed that the consequence is inevitable and then let it be inquired whether the objection is insuperable, whether it is even consistent with Mr. Mill's own system of thought.

Mr. Mill systematically teaches that "body is the mysterious something which excites the mind to feel;" that "mind is the mysterious something which feels and thinks;" but that "on the inmost nature of the thinking principle as well as on the inmost nature of matter we are and with our human faculties must always remain entirely in the dark" (i. 81). If then we are utterly ignorant of the inmost nature of the mysterious somethings that we call matter and mind, what does Mr. Mill mean when he speaks of the materiality of God? Does he mean that if, by the acceptance of the doctrine of causal resemblance, this inevitable consequence, the materiality of God, is admitted, we must thenceforth think of God as something that we can see, or hear, or touch, or taste, or smell with our bodily senses? Does he mean that it involves a literal pantheism, a deification of the

material world? But this is no consequence of the doctrine of ausal resemblance viewed in the light of his own doctrine of our utter ignorance of the inmost nature of matter. The inmost nature of matter is confessedly placed just as far beyond the reach of human faculties as the inmost nature of mind, as the inmost nature of God; and to speak of the materiality of God as the inevitable consequence of the doctrine of causal resemblance and as a fatal objection to it is, in the contemplation of Mr. Mill's philosophy, very much like the erection of a scarecrow to frighten the timid and unreflecting. We know nothing, says Mr. Mill, of matter but the sensations we derive from it, nothing of its inmost nature. But, he adds in substance, do not believe that the cause necessarily resembles the effect; for if you do, you must believe that God, the first 'cause, necessarily resembles matter, the effect; that is, necessarily resembles that which Mr. Mill himself says is inscrutable to our faculties.

When we infer from a physical effect a physical cause, from the existence of the material universe a material cause of that material effect, what do we mean, first, by a material effect, and second, by a material cause? By a material effect, according to Mr. Mill's doctrine, we do not mean that we know matter in itself but only in the attributes or conditions by which it makes itself known to us through our sensations: *in the effect* matter is an incognizable mysterious something. In like manner by a material cause, according to the same doctrine, we do not mean that we know matter in itself, but only the attributes or conditions by which it makes itself known to us through our sensations: *in the cause* matter is an incognizable mysterious something. What is this but what every theist believes and has always believed, that God, hidden in the depths of his incommunicable nature, makes himself known by means of the material universe which is at once an expression of his being and an effect of his energy? To speak or think of God as the material cause of the material universe seems in common parlance and according to current conception to involve the impiety which shocks Mr. Mill of representing God as something visible and tangible, whereas no

one knows better that matter whether regarded as an effect or as a cause is placed completely beyond the scope of our senses. There can be no dishonour to God in assimilating him to the work of his own hands, and to deny this resemblance as if matter were something base and foul, polluted and polluting, is itself a revival of one of the vagaries of Oriental speculation and one of the heresies of the early Christian church. On the other hand, if we deny the necessary causality of homogeneous things, on what other principle can we lay the foundations of all religion and of all morality; of all religion in the belief that the existence of mind as an effect demands and proves the existence of mind as a cause; of all morality in the belief that the moral constitution of human nature as an effect demands and proves the existence of a moral author and cause, the source and centre of all moral obligations?

Two kinds of causality have been assumed to exist, necessary causality between homogeneous things, and contingent causality between heterogeneous things; and corresponding with that distinction it has been shown that it is in the former relation only the resemblance of cause to effect is necessary, while in the latter it is contingent. This is probably the most definite form in which to express the conclusion which the various phenomena appear to justify; but it is unsatisfactory, for the notion of contingent causality must be admitted to be indeterminate and unphilosophical. It may therefore be made a question whether this distinction between necessary and contingent causality, necessary and contingent resemblance, is tenable; whether contingent causality and resemblance are causality and resemblance in any just and true sense; and whether the only causality and resemblance that are real and positive are not those that have been described as necessary.

When, for instance, we say that a storm at sea, a physical cause, produces intellectually in some pusillanimity and in others fortitude, morally in some selfishness and in others self-sacrifice, the fact is that it merely evokes those prevailing intellectual and moral habits of mind which are the effects, not of the storm,

but of all the previous intellectual and moral culture of the respective individuals. When we say that hard study, an intellectual cause, produces in some physically a state of feeble bodily health and in others morally a deadness to moral perceptions, the fact is that these physical and moral results are not the effects of intellectual culture; but that the former is the effect of those physical causes which we describe negatively as neglect of exercise and affirmatively as sedentary habits, and that the latter is the effect of those moral causes which we describe negatively as neglect of moral culture and affirmatively as intellectual pride and self-sufficiency. When we say that temperance, a moral cause, produces in some physically bodily health and in others intellectually the capacity of vigorous and sustained thought, the meaning is that the operation of the moral cause, when unopposed by stronger counteracting causes, affords scope and occasion for the operation of the physical causes necessary to the production of the one effect and for the operation of the intellectual causes necessary to the production of the other. This analysis enables us to perceive that in these cases physical causes necessarily produce physical effects and physical effects only; intellectual causes intellectual effects and intellectual effects only; and moral causes moral effects and moral effects only. The homogeneity of cause and effect is maintained and contingent causality disappears.

We cannot, however, always in this way resolve causes that are apparently contingent into those which are necessary; and the most formidable obstacle to the attempt is to be found in the fact already mentioned, that matter and mind which are discrepant in their nature, act and re-act upon each other.

The action of mind upon matter is resolvable into two cases. The first is when mind acts upon matter external to the acting mind. In this case there is no difficulty. Mind does *not* act upon matter external to itself except through the medium of matter. We cannot by mere thinking and willing blast a rock or fell a tree. To produce these or any other physical effects upon external nature, we must employ appropriate physical

